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MARKET RESEARCH FOR EFFECTIVE COMPETITION
IN THE FEDERAL PROCUREMENT PROCESS

by

Richard Leon Stewart

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Thesis Advisor: Roger D. Evered

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The Competition in Contracting Act of 1984 (CICA) created a new requirement for the Federal procurement process. This requirement is to conduct market research in planning for procurements of goods and services. The nature of this requirement is not clear. The prevalent views of the requirement can be classified as the 'narrow view' and the 'broad view'. The 'narrow view' holds that the purpose of market research is merely to identify potential sources of supply. The 'broad view' is that the requirement involves understanding the marketplace and conducting the methodical research that is oftentimes necessary to develop that understanding. This thesis argues that the broad view is the more appropriate for the Federal procurement process. A definition of market research is offered as well as the five principal elements of an effective program and four possible approaches to organizing to conduct market research. A model is developed to guide the manager of in the execution of a market research program. An organizational approach for market research at a Navy Inventory Control Point is recommended.

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Market Research for Effective Competition
in the Federal Procurement Process

by

Richard Leon Stewart
Lieutenant Commander, Supply Corps, U.S. Navy
B.A., West Virginia State College, 1974

Submitted in partial fulfillment of the
requirements for the degree of

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December 1987

ABSTRACT

The Competition in Contracting Act of 1984 (CICA) created a new requirement for the Federal procurement process. This requirement is to conduct market research in planning for procurements of goods and services. The nature of this requirement is not clear. The prevalent views of the requirement can be classified as the 'narrow view' and the 'broad view'. The 'narrow view' holds that the purpose of market research is merely to identify potential sources of supply. The 'broad view' is that the requirement involves understanding the marketplace and conducting the methodical research that is oftentimes necessary to develop that understanding. This thesis argues that the broad view is the more appropriate for the Federal procurement process. A definition of market research is offered as well as the five principal elements of an effective program and four possible approaches to organizing to conduct market research. A model is developed to guide the manager of in the execution of a market research program. An organizational approach for market research at a Navy Inventory Control Point is recommended.

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I. INTRODUCTION

The use of market research in the Federal procurement process is no longer just a good idea; it's the law. It became a statutory requirement with the passage of the Competition in Contracting Act (CICA) of 1984 (Title VII of the Spending Reduction Act and Deficit Reduction Act of 1984, Public Law 98-369). Specifically the Act states: "Sec. 303A. (a)(1) In planning for the procurement of property or services, an executive agency shall . . . (B) use advance procurement planning and market research . . . ."

Requiring the use of advanced planning in the Federal procurement process cannot actually be thought of as a new idea. Some may argue that it may have been applied inconsistently, but few would consider it a new requirement. The requirement to engage in market research is a new one. **The problem is that this new requirement is unclear.** Writing the about the CICA and the new market research requirement in his textbook, ***Government Procurement Management***, Dr. Stanley Sherman (George Washington University) expressed concern over the lack of clarity.

> The legislation has imposed a requirement for agencies to engage in market research associated with their solicitation and award procedures. Again the legislation does not define what a market research process involves. Furthermore, in the case of market research, it is not clear that the procurement work force is sophisticated in the research techniques necessary to tap the marketplace for information in a way that will carry out such a mandate. [Ref. 1 : p. 122]

How one defines market research is crucial to the question of what procurement activities must do in terms or organization and staffing to meet this requirement. This thesis presents what the researcher feels are the two main views of market research pertaining to the Federal procurement process. One, the **'narrow view'**, holds that the purpose of market research is merely to identify potential sources of supply. The other, the **'broad view'**, holds that market research involves far more than identification of

potential sources of supply. In fact, the 'broad view' is that the requirement involves understanding the market place and conducting the methodical research that is oftentimes necessary to develop that understanding. The researcher feels that the 'broad view' is the correct one and shares Dr. Sherman's concern about the lack of 'sophisticated research techniques' required to perform market research.

Background information related to the CICA, relevant issues in the area of competition, and an argument in support of the 'broad view' of market research are presented. A definition of market research is developed. In clarifying this definition the researcher offers what are believed to be the **five principal elements** of an effective market research program. **Four possible approaches to organizing** for market research are identified. These four approaches are subjectively evaluated vis à vis the five principal elements of effective market research. Following this, **a model is developed** to guide the manager of in the execution of a market research program . Some examples of current practices related to market research are discussed and **a recommended organizational approach** for accomplishing market research at a U. S. Navy activity is presented.

A. RESEARCH QUESTIONS

The primary research question is as follows:

What are the key elements of a procurement market research program and how should the Department of Defense (DoD) employ such a program in the DoD procurement process?

The following are the subsidiary research questions:

(1) What are the principal elements of a market research program?

(2) How should market research be performed?

(3) What are the critical problems likely to be encountered in market research?

(4) How could the information available from a market research program be utilized?

(5) What are the expected benefits of a systematic approach to market research?

B. RESEARCH METHOD

Information used in the preparation of this thesis was obtained through three primary methods; literature search, telephone conversations, and personal interviews.

A literature search was conducted for the preparation of an unpublished paper on the subject of market research completed by the researcher in December, 1986. An additional literature search was conducted for this thesis. In addition to library catalogs and periodical index guides, a search of various data bases accessible through the Dialog system was conducted. Relevant books, articles, and other documents cited as a result of these literature searches are listed in the List of References. Some of the material cited was first brought to the researcher's attention during phone conversations and interviews.

A combined total in excess of thirty phone conversations and interviews were conducted to gather information. In those cases where a phone conversation subsequently led to a personal interview, only the date and person(s) involved in the interview are contained in the List of Interviews. In some cases it was either impractical or unnecessary to conduct a personal interview subsequent to phone conversations. Those phone conversations which were considered to have provided information relevant to the issues or conclusions presented in this thesis are contained in the List of Phone Conversations.

The literature search provided background information on market research and related endeavors. It also provided an understanding of of the limited amount of information available on the subject of market research as it is being approached in this research. The phone conversations and interviews provided the researcher with an appreciation for what some peolple working in the field of procurement understand market research to be and

what is being done in this area. Based on the combination of literature review and conversations the researcher concluded that there was a need to better define the market research requirement as it applies to the federal procurement process. It was also concluded that there are a number of activities currently being performed that are related to market research but there is a lack of recognition of this relationship and coordination of these efforts. The task was to define the requirement, examine some current practices, and determine how best to organize an effective market research program.

C. SCOPE OF THESIS RESEARCH

The thesis research was confined to examining market research specifically for aspects that would improve the DOD procurement process. It was expected that much of what would be found would result in recommendations for an approach to market research that applicable to agencies other than DoD. More specifically than just DoD, this research was geared toward processes that would improve the capability of activities such as Navy Inventory Control Points (ICP), Naval Supply Centers (NSC), and Navy Regional Contracting Centers (NRCC).

While there is no doubt a need to improve market research efforts in support of major weapon systems procurements, the nature of the organizations supporting these procurements are better able to devote the time and assets to developing a thorough understanding of their primary industry and key, related industries. Therefor, the specific needs and existing capabilities of major weapon system procurement activities were not investigated. However, it is felt that much of what is presented in this thesis is certainly applicable to the major weapons systems procurement process.

An ICP or NSC finds itself faced with a wide variety of commodities and vendors that it must deal with on a day to day basis. Therefore a systematic approach to gathering

pertinent market research data, analyzing it, and getting it into the hands of contracting personnel in a useful form was the focus of this research. Preliminary research indicated that the skills needed to collect and analyze market research data were not generally possessed by contracting personnel even if they had the time and the inclination to do the necessary research.

II. BACKGROUND

A. GENERAL

The Commission on Government Procurement (COGP) was chartered by the Congress in 1969. The impetus behind this effort was the growing concern about the effectiveness of the Government procurement process. The COGP's effort was completed in 1972 and published in a four volume report.

Since the completion of the COGP's efforts, the Congress and the Executive have attempted to make improvements in the way the Federal government procures goods and services. Of these efforts to improve the procurement process the two most significant ones to date have been the implementation of the Federal Acquisition Regulations (FAR) in April, 1984 and the passage of the Competition in Contracting Act (CICA), also in 1984.

The intention of those developing the FAR was to put forth a single Federal acquisition regulation. A great deal of effort went into developing it. However, in terms of overall impact on the Federal acquisition process , the CICA is having and probably will have for some time, the most far reaching affects [Ref. 1: pp. 118-119]. The CICA touches on many facets of procurement and necessitated major changes to the FAR.

The most significant features of the CICA are those dealing with competitive procedures. The law does away with the preference for the formal advertising method (sealed bid) over the negotiated procurement method (competitive proposal). Another key feature of the CICA is in the requirement for advance procurement planning, market research, and preparation of specifications to promote 'full and open' competition.

Much has been written about the CICA in general. LCDR Curtis Coy's thesis on CICA will provide the interested reader with a more in depth look at the background and

implementation of the Act itself. [Ref 2: Chapters III and IV] The purpose of this thesis is not to look into all of the possible ramifications of the CICA. However, a recap of some of the events which shaped the CICA as well as how the issues of market research and planning were brought into the process are deemed necessary.

B. IMPETUS FOR PROCUREMENT REFORM LEGISLATION

Over the past several years many events have shaped the current federal procurement environment. These have ranged from overpricing issues, to billing fraud, to accusations of total mismanagement. Some examples of these events ($7,622 coffee pot, $748 pliers, indictment of General Electric Co. for criminal fraud, etc.) are listed in the ***Congressional Quarterly Almanac*** . [Ref. 3: pp. 166-167]

Some of the demands for reform have come from liberal elements which have an axe to grind with the Pentagon. This thought was most succinctly expressed by journalist William F. Buckley when he wrote "There are people about who hate expensive Navy hammers, not because they mind expensive hammers, but because they mind the Navy." [Ref. 4: p. 15]

On the other hand, much of the reform effort has been sponsored by supporters who are interested in restoring the Pentagon's credibility and ensuring taxpayers' interests are looked after. The following is an example of the type of frustration experienced by a staunch Pentagon supporter who backs the reform movement:

> Conservative Democrat Bill Nichols, D-Ala., chairman of the House Armed Services Subcommittee on Investigations .... had ordered investigators to probe the cost claims of seven major defense firms. Nichols hoped to find that General Dynamics was unusual in the large number of questionable cost claims it had submitted.
>
> In May, an outraged Nichols announced that the investigators had found questionable cost claims by all of the firms. [Ref. 3: p. 164]

These citations of things gone wrong and the frustrations experienced by the Congress in trying to deal with the problems are what have shaped the current acquisition environment and made reform a bipartisan issue.

How does the issue of market research figure into this reform movement? The legislative history of the CICA shows that the lack of effective market research is cited as a reason for lost competitive procurement opportunities on more than one occasion. The following is taken from a Senate report on the subject of competition in contracting dated March 31,1983:

> Competition in contracting depends on the procuring agency's understanding of the marketplace. In addition to advance procurement planning, market research is essential in developing this understanding. Agencies which fail to scope the market for potential competitors--whether by telephone or publicizing in the Commerce Business Daily (CBD)--often resort to sole-source contracting when competition is available. [Ref. 5: p. 13]

Professor John Cibnic's testimony at a hearing before the Senate Committee on Governmental Affairs on June 29,1982, was cited in support of the need to codify the requirement for advance planning and market research. An excerpt is quoted below:

> Opportunities for obtaining or improving competition have often been lost because of untimely, faulty, or the total lack of advance procurement planning. Noncompetitive procurement or inadequate competition also has resulted many times from the failure to develop specifications or to perform adequate market surveys and identify potential sources. [Ref. 6: p. 23]

C. OVERVIEW OF MARKET RESEARCH

Market research involves the collection and analysis of data to **improve the quality of specific decisions** which must be made **within the existing framework of the procurement process**. On the other hand, **acquisition research** involves examinations of processes and previous results which hopefully will lead to **improvements in the procurement process** as a whole or some specific

aspect of it. Market research should not be confused with **marketing** research which is concerned with the investigation of opportunities to **sell** goods and services. These definitions are offered as point of reference for the material contained in the first three chapters. The definition of market research will be dealt with in greater detail in Chapter IV.

Why is the use of market research such a good idea? Because a knowledge of conditions in individual markets and the marketplace in general is essential to all facets of the Federal procurement process. Knowledge of **who has supplied** which products or services as well as **who could supply** them is needed to ensure all potential competitors have an opportunity to do business with the federal government. Knowledge of what is happening in the marketplace is a key ingredient in realizing fair and effective competition as well as arriving at a price that is fair and reasonable to both the buyer and the seller. One cannot hope to consciously set about to routinely purchase high quality products without the requisite knowledge about the state of the art in quality control processes, manufacturing processes, and management techniques.

A contract negotiator should have knowledge of the factors affecting a particular industry such as prices of inputs (past and projected), transportation factors, state of the art inventory and production management systems, and innovations that may be just around the corner. It doesn't matter whether the negotiation involves a new type of missile, an individual repair part such as a valve, or consumable items such as paper clips. As the preceding partial list of market factors would indicate, "The careful preparation of a negotiating session is often a good sized research project in itself." [Ref. 7: p. 257] This knowledge can be provided by an effective market research effort.

D. MARKET RESEARCH AND COMPETITION

One of the major purposes of the CICA is to increase competition for Federal Government contracts. [Ref. 8: p. 2] **The CICA is not legislation about reducing the cost of goods and services procured by the federal government.** There are other recent pieces of legislation that deal with pricing and other procurement related issues. Commenting about the bill he sponsored, (S 2127), which eventually became the CICA, (S 338), Senator William Cohen (R-Maine) said, "Moreover, the bill would require agencies to perform a market search to obtain competition before awarding a sole source contract . . . ." [Ref. 9: p. A-24]

Dr. Stanley Sherman wrote about the significance of the connection between market research and competition that,"The implied coupling of market research with moves to increase competitive procurement could prove to be a significant step toward improved government contracting." [Ref.1: p 123]

Additional sources of supply must be developed if the objective is to obtain "full and open competition" and thereby reduce the numbers of sole source contracts. A thorough knowledge of potential suppliers and the economic and business factors affecting them is necessary. This would better enable the buying activity representatives to seek out potential suppliers and make them aware of opportunities to compete for government contracts.

Drafters of the CICA hoped to reach more potential suppliers by requiring agencies to make greater use of the Commerce Business Daily (CBD) in advertising the Government's contract requirements. The following two quotes express doubt about the efficacy of CBD announcements in promoting competition. The first is from an article in ***Electronic News*** and the second is from an article by Colleen Preston who at the time was counsel for Procurement Policy on the staff of the U.S. House Armed Services Committee.

> Also the demand that Commerce Business Daily bid notices offer more complete details has minimal impact. If any firm, large or small, finds out about a bid for the first time in the CBD, it is months or a year late in preparing to respond. Competitors working deep within the agency for at least that long will have been well on their way to writing bids. [Ref 10: p. 11]

> In addition, the number of bidders that submit quotes only after having seen announcements in the Commerce Business Daily is minimal. [Ref. 8: p. 20]

Whether or not this is generally the case does not diminish the fact that contracting/buying personnel are going to have to become more proactive in order to achieve the goals of the CICA. Arming them with the proper information about the marketplace would assist in this effort. It is hoped that procuring activity personnel would be able to get out from behind their desks and help firms get involved in competing for government contracts.

There are many small businesses out there that could be developed into excellent suppliers through a proactive approach to supplier development. In order to take advantage of information that can be developed through market research and to increase competition, the federal government contracting officer may need the type of flexibility called for in a recent report by a group commissioned to study Department of Defense management problems.

> In sum we believe that DoD should greatly increase its use of truly effective competition, using as a model the competitive buying practices of major corporations and their suppliers. We recommend the elimination of those legal and regulatory provisions that are at variance with full establishment of commercial competitive practices. [Ref. 11: pp. 63-64]

What a great deal of this discussion of competition comes down to in private industry terms is supplier development. The following was one of the major findings of a research study on supplier development efforts by Canadian firms:

> The main determinant of the success or failure of supplier development is the purchaser himself. As initiator of the process he bears the responsibility for implementation and

results. The examples that have been given indicate that the purchaser can improve the chances of success by careful planning. [Ref. 12: p. 110]

Market research can provide the information needed for careful planning. However, if the contracting officer's hands are tied by restrictive procurement regulations that deny him or her the flexibility to make good business decisions, those careful plans cannot be fully implemented.

E. "FULL AND OPEN" VERSUS "EFFECTIVE" COMPETITION

There is some disagreement as to whether the Federal Government should be pursuing "full and open competition" or "effective competition". The drafters of the CICA saw in the concept of "full and open competition" a sense of a fair shake for the American businessman, be he large or small. Another view is that what may be seen as fair about "full and open competition" as far as giving any company a chance to bid may be patently unfair to the taxpayers in general and to the end user of the product in particular. That is, unfair in the sense that the purchase of products of less than adequate quality in the first place will end up costing more in the long run. This is not to say that this will always be the case, however, the possibility of sacrificing quality is increased if the primary focus is weighted too heavily toward price.

An effective argument can be made that, in attempting to achieve "full and open competition", too much emphasis is placed on price and far too little emphasis is placed on the quality of the purchased product. One may not start out with the intention of emphasizing price to the exclusion of quality, but that can very easily be the end result. An example of this is the government contracting officer who would like to negotiate for quality. Unfortunately, the contracting officer faces the reality that his or her performance as a negotiator probably will not be judged not on the quality of the item to be purchased (often a very difficult thing to quantify). The contracting officer's performance has

typically been judged by how much he or she (the contracting officer) is able to get the contractor to lower the price of the item (a very easy thing to quantify).

In July of 1985, President Reagan established a Blue Ribbon Commission on Defense Management to look into problems in the areas of defense management and organization. There have been many commissions appointed by presidents but few have been staffed by such an experienced and prestigious group of individuals as this one. It is normally referred to as the Packard Commission (after its illustrious chairman, David Packard). In their final report to the President, the members of the commission expressed their concern over the issue emphasis of price factors to the exclusion of technical and quality concerns in the following manner:

> A further problem stems from confusion regarding the intent of recent legislation - notably the Competition in Contracting Act's (CICA) requirement of "full and open competition," which some have interpreted that the government *must* buy from the lowest offeror. CICA sought to make it clear that the award of a contract through competitive negotiation is a method procurement no less acceptable than an award using formal advertising or sealed bids, and thus to recognize that competition entails more than just an assessment of lowest price. This goal has been obscured by **the notion that full and open competition** precludes the government from establishing qualification criteria, and **forces the award of a contract based on price** without regard, for example, to technical expertise or life cycle costs...**Thus the full potential of CICA is not being realized because of a focus on the quantity rather than the quality of competition**. [Ref. 11: p. 63 **(emphasis added)**]

In November of 1985 James Wade, then Assistant Secretary of Defense for Acquisition and Logistics, expressed his views on the relationship between price concerns and quality concerns as follows:

> DoD must adopt a policy of "competition for excellence" instead of "competition for price." Price has no meaning without a measure of the quality being purchased. As long as the low bid mentality continues, there is little incentive for contractors to make quality improvements a way of life. [Ref 13: p. 2]

The thoughts of two recognized experts in the area of quality, W. Edwards Deming and Philip B. Crosby, lend a great deal of credence to the notion that one must be careful not to place too much emphasis on price at the expense of quality related concerns. Deming wrote, "He who has a rule to give business to the lowest bidder deserves to get rooked." (Ref. 14: p. 23) In emphasizing that suppliers must be made aware that a fair price is expected Crosby cautioned, "...remember that price peddlers don't care much about quality . . . ." [Ref. 15: p. A33]

F. THE IMPACT OF THE CONTROVERSY ON THE REQUIREMENT

Ultimately, the resolution of this controversy over "full and open competition" versus "effective competition" will have a major impact on what type of policy will be pursued in complying with the requirement of the CICA to conduct market research.

What if all we are trying to achieve is "full and open competition" with success being measured in terms of the numbers and dollar value of competitive awards? In this case what is needed is not really market research but rather one of the tools thereof known as a market survey.

A market survey[1] as defined in FAR 7.101 consists written or telephone contacts with knowledgeable experts, announcements in the CBD, solicitations for planning purposes. This is relatively simple to accomplish in comparison to a full blown market research effort as will be described in Chapter IV.

[1] A market survey in the field of marketing is sometimes referred to as the questionaire technique. It typically involves mail questionaires, telephone interviews, or personal interviews. This is somewhat different from the what the FAR describes as a market survey.

If what we are trying to achieve is "effective competition", with concerns related to both price and quality, then a true research effort in support of the procurement process is required. What is required is in fact a major market research effort, or as it is known in private industry purchasing research.

Specifying requirements for and buying a subassembly is **generally** more complex from the purchasing standpoint than buying the raw materials that support a manufacturing process. However, this is not always the case. Market research itself can be very complicated and demanding even for items that are relatively inexpensive or involve a very simple manufacturing process. The following statement will amplify this viewpoint.

> The need for purchasing research is not limited to the exotic space-age industries. Buyers of raw materials for such relatively prosaic things as bowling alleys and tenpins must extend their interest forward to the economic stability and planting techniques of the Canadian loggers who supply much of the wood that goes into these products.
>
> Purchasing research on this broad scale,then becomes something beyond the scope of the individual buyer's job. He has neither the time nor the special qualifications to collect, interpret, and report the data that should be collected. [Ref. 2: p. 259]

Not every Federal government purchase or contracting effort requires detailed and thorough research efforts. However, for those purchases that do require significant research efforts, the Federal Government buyers and contracting officers seldom, if ever, have the time or skills necessary to conduct, analyze and utilize such research.

G. ASSESSMENTS OF MARKET RESEARCH EFFORTS

Dr. Stanley Sherman (George Washington University) found in a 1984 survey of fifteen government contracting activities that "None had initiated any source research activities on a systematic basis, ADP or otherwise." [Ref. 1: pp. 182-193]

The Logistics Management Institute included an assessment of the use of market research in the Department of the Navy in a report dated February,1986. The report was commissioned by the Competition Advocate General of the Navy. The authors concluded the following:

> Our survey of Navy procurement managers shows that market research to obtain more competition has been minimal. It has been used late (when at all) and not as integral part of acquisition planning. We recommend that the Navy expand and institutionalize market research as an activity to be conducted early in acquisition planning, and that skills in conducting it be upgraded. [Ref 16: p. iv]

> A basic conclusion is that the use of market research in the Navy is rudimentary because of (1) a narrower than-desired conception of its role in procurement, (2) lack of skills in conducting it, (3) meager publicity about successes and payoffs from it, and (4) absence of leadtimes to assimilate its results into acquisition plans. [Ref. 16: p. 2-12]

Dr. Sherman's thoughts on this matter support the conclusions reached in the Logistics Management Institute study.

> ... significant effort will be required to bring the government's procurement personnel up to an effective level of competence in applying the techniques of market research to their source finding, qualification, and selection responsibilities. [Ref. 1: p. 123]

The research and interviews conducted pursuant to the development of this thesis found no evidence of any significant progress toward institutionalization of a market research effort. Efforts related to purchasing functions at various commands were noted as those that could be considered as parts of a market research program. However, they were not being pursued as part of a coordinated effort to conduct market research and in most cases were not even recognized as having the potential as such.

H. SUMMARY

This chapter was not intended to provide the reader with a complete history of legislative or executive efforts to improve the Federal procurement process. The intent was

to give the reader some insight into the confusion and controversy surrounding the issues of competition and the different interpretations of how competition can be achieved. The next chapter will address the interpretations of the market research requirement of the CICA. The idea of market research as it is understood in the field of marketing is also discussed.

III. WHAT IS THE REQUIREMENT?

A. THE INTENT OF CONGRESS ?

Is it clear what Congress intended? On first blush the wording of the Competition in Contracting Act (CICA) would appear to be fairly unambiguous. It clearly states that agencies are to use advance procurement planning and market research. But what was the intent and did it get translated correctly in the major updates of the Federal Acquisition Regulations (FAR) that have taken place since the passage of the CICA? The researcher asserts that with regard to planning, the FAR is very comprehensive. On the other hand, with regard to market research, the FAR is woefully inadequate.

B. THE FAR TRANSLATION OF THE INTENT

The FAR is quite clear on what acquisition planning is and how to go about doing it (FAR Part 7 - Acquisition Planning). A clear, concise definition is provided along with a statement of policy and procedures. It is generally accepted that the Federal procurement workforce understands the concept of advance procurement planning. However, some may say that all too often the application of this understanding leaves a lot to be desired.

On the matter of market research the FAR is not quite so clear. The term is mentioned in connection with the acquisition of commercial or commercial-type products under the plan of action for sourcing (FAR 7.105 (b) (1). This mention refers one to FAR Part 11 - Acquisition and Distribution of Commercial Products. The regulation states that:

> Acquisition of commercial products begins with a description of the Government's needs in functional terms in sufficient detail so that market research and analysis can be used to help determine whether commercial products, distribution systems, and logistics support are available to fill those needs. [FAR 11.003]

In section 11.004 of the regulation some steps for developing market research information are listed as well as some possible information sources. This requirement in the FAR is merely to determine if a commercial item is available or can be modified to suit. If the commercial item is available it must be determined that suppliers intend to continue to produce or support the item (i. e. piece part support). Essentially the process as described in the FAR and the sources listed to support it are what is generally thought of as technical research.

Since the only reference to market research in the FAR is in this context, should one to be lead to believe that Congress did not intend that market research be carried beyond this 'technical' research? The researcher feels that the references to market research in the FAR do not truly reflect the intent of the Congress on this matter.

First, the language of the CICA does not restrict the market research requirement to commercial item sourcing determinations alone. Second, the legislative history does not support this narrow interpretation . Specifically, the previously cited Senate report on the bill that said, "Competition in contracting depends on the procuring agency's understanding of the marketplace." [Ref. 5: p. 13] The researcher interprets "understanding the marketplace" in an economic sense.[1] Finding an item in a manufacturer's catalog and determining the manufacturer's intent with respect to future logistics support does not equate to developing an understanding of the marketplace.

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[1]The marketplace in an economic sense connotes a very complex arena in which buyers and sellers come together to determine the conditions of exchange of goods and services. There are those who put forth a very persuasive argument that the marketplace in which the DoD acquires its weapons systems is singularly unique and behaves like no other form of market [Ref. 20: pp 105-112]. Understanding this complicated arena requires more than a knowledge of who the players are.

C. MARKET RESEARCH IN MARKETING

What if the conscientious acquisition planner concluded that the requirement applied to all procurements and sought to find a broader definition of market research? Unfortunately, what this person interested in buying would find is that market research is typically defined in terms of trying to selling (marketing).

Looking for a definition of market research in the world of marketing may only add to the confusion. It is deemed worthwhile at this point to look at what one might find there.

> The most common definition of marketing is the process of getting goods out of the hands of the producer, into the hands of the consumer. [Ref. 17: p. 4]
>
> Marketing research is the systematic combination of logic and data to define and solve important problems in the field of marketing. [Ref. 18: p. 15]
>
> Marketing research is the systematic and objective search for and analysis of information relevant to the identification and solution of any problem in the field of marketing. [Ref. 19: p. 3]
>
> Certainly, one factor that should be included in a definition of marketing research is that marketing research is concerned with the acquisition of data that will be helpful in solving problems. [Ref. 20: p. 27]
>
> Market research is the systematic, objective, and exhaustive search of the facts relevant to any problem in the field of marketing. [Ref. 21: p. 3]
>
> Market research is systematic procurement, organization, and interpretation of facts and opinions to aid in improving the quality of marketing decisions or solutions. [Ref. 22: p. 224]
>
> If the student has not clearly differentiated "market research" from "marketing research," he should do so at this time...marketing research is concerned with all functions and problems involved in transporting a product from the point of production into the hands of the consumer or user of the product. On the other hand, market research is only one specialized area of marketing research. It is concerned with all external factors, generally not within company control, that affect sales of a company's products. [Ref. 23: p. 68]

It comes as no surprise if the reader has not clearly differentiated marketing research, market research as it applies to marketing, and market research as it applies to buying. Nonetheless, some key points about these definitions should be kept in mind. By and

large most of them contain some similar key words such as systematic, objective, analysis, and interpretation. They refer to aiding in decision making and problem solving.

The points mentioned above are what link the definitions of market research in marketing and market research in purchasing. Research methodologies may be quite similar. However, since the end objectives of buyers and sellers are somewhat at odds, their research will tend emphasize different data or place different weights on the same data.

D. THE NARROW VIEW OF MARKET RESEARCH

References to scoping the marketplace through telephone calls or announcements in the Commerce Business Daily [Ref. 5: p. 13] and failure to perform adequate market surveys [Ref. 6: p. 23] fall into what the researcher categorizes as the 'narrow view' of market research. This is in line with the view of the authors of a Logistics Management Institute study commissioned by the Navy's Competition Advocate General. They concluded that,"...market research in the Navy is rudimentary because of (1) a narrower than-desired conception of its role in procurement..." [Ref. 16: p. 2-12]

A recent article in ***Defense Management Journal*** entitled "Market Research Can Boost Competition for DoD Dollars" proposed the use of the Defense Acquisition Management Data System (sometimes referred to as the DD350 database) for market research. The author refers to market research as something to be used to "...identify potential new qualified sources..." [Ref. 25: p 13] Later in the article he refers to market research as follows:

> Corporate materials managers do so as well, though they may call it sourcing. Granted, we usually define market research from the seller's standpoint, but the information and techniques vary little from one side of the market to the other. [Ref. 25: p. 15]

The researcher classifies the first quotation as a 'narrow view' of market research. The second quote is evidence of the confusion about what the requirement really is. The researcher agrees that the **research methods** are quite **similar**. In fact these similarities were drawn upon heavily to develop the model presented in Chapter V.

The **dissimilarities of the objectives** of those who require the information that these two different research efforts provide are very great indeed. Selling is more concerned with information about individual consumer tastes and preferences as well as how to influence them. Even those who sell to the Department of Defense (DoD) try to market their wares by attempting to create perceptions about their firm's technical and management expertise. On the other hand, DoD buyers should have little interest in consumer tastes and preferences, except for those activities involved in the procurement of foodstuffs. Individual tastes and preferences are not supposed to be major factors in the purchase of tanks, ships, aircraft, and the associated logistics support.

Relying heavily upon the DD350 database will contribute very little to the procuring activity's understanding of the workings of the marketplace. The use of this database should certainly be part of a market research effort, possibly a significant part, but not the entire thing.

This 'narrow conception' is also true in the Air Force. For the past two years the Air Force Systems Command has published what it calls its ***Market Research Plan for Industry***. The introduction to the 1987 version says that the prior year's plan was "...the first document of its kind to provide industry with information on upcoming competitive programs to facilitate advanced planning and to stimulate competition." [Ref. 26: p. 1]. The document provides industry with some very useful information but does little to increase the Air Force's knowledge or understanding of industry. It is, as the Logistics Management Institute researchers lamented about Navy market research efforts to date,

"...less a piece of research work than it is a piece of advertising..." [Ref. 16: p. 2-12]

The Air Force and the Navy are not alone in having made a narrow interpretation of the requirement. The Army's interpretation is similarly narrow and closer to advertising than it is to research. [Ref. 27]

As stated earlier, these assertions that market research is not really being conducted by Federal procurement organizations are not meant to imply that no efforts are being made. A large part of the problem is a lack of coordination of those efforts, albeit somewhat rudimentary ones, that are being made.

E. THE BROAD VIEW OF MARKET RESEARCH

This section presents an argument for interpreting a market research requirement in a what is called 'broad view.' As stated previously the researcher interprets "understanding the marketplace" in an economic sense. Such an interpretation implies something more than just knowing who potential sources are. The other part of this view is based on the interpretation of the word **research** to imply a **detailed and rigorous examination.** More than a telephone canvas or data base search for suppliers of similar items.

The comments on research presented in two marketing research textbooks support this view.

> Research connotes a systematic, objective, and thorough investigation of a subject or problem in order to discover relevant information or principles. [Ref. 19: p. 2]
>
> To know what marketing research is it is important to understand what research is. Webster says it is "careful, close searching; usually critical and exhaustive investigation or experimentation having for its aim additions to and, or revisions of human knowledge. [Ref. 17: p. 4]

Much of what is being done in the name of market research in the Federal government is what the FAR refers to as a market survey. The market survey as described in the FAR

is far less involved and rigorous than what is defined as a market survey in marketing research [Ref. 17: p. 75].

The researcher developed the broader view of the market research requirement reflected in the definition suggested in Chapter I while conducting research for an unpublished research paper [Ref. 28]. This view was based on the interpretation that 'understanding the marketplace' is not possible through the means of a mere survey. This led the researcher to interpret a market research effort to be essentially the same as what is known as a purchase research effort in private industry.

The findings of a study conducted by the Logistics Management Institute [Ref. 16] were cited in support of the researcher's conclusion regarding the scope of the market research requirement. An excerpt from the findings of this study was cited[2] in the unpublished research paper previously mentioned [Ref. 28]. This explanation is offered to point out that two independent research efforts, conducted within a short time of each other, resulted in similar interpretations of market research.

The following two excerpts from the Logistics Management Institute study are cited as examples of what the researcher terms the 'broad view' of the market research requirement:

> Market research is used primarily for identifying potential new suppliers and for price analysis. But it has additional value in providing buyers knowledge of current technology and trends, an understanding of the workings of the commercial marketplace,and interaction with the private sector and others to influence development of a truly competitive solicitation package.
>
> The typical Navy market survey, however, is less a piece of research work than it is a piece of advertising: it consists mainly in publicizing an intended procurement in the Commerce Business Daily and seeing who answers. This approach differs markedly from industry practice, which involves research in standard industrial information sources to locate suppliers with the required capabilities. [Ref. 16: p. 2-12]

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[2]The source for this quote was not the Logistics Management Institute study itself, but rather a quote contained in another report [Ref. 29. The full Logistics Management Institute study [Ref. 16] was not available to the researcher at that time.

A final point about this 'broad view' of market research is that it is now the position taken by the Navy's Competition Advocate General. The following is an excerpt taken from his September, 1987, Competition Communiqué on the subject of market research:

> A good place to start is with a clear definition of the concept. Market research is any action taken to improve a purchasing organizations understanding of the market from which they buy supplies or services. This includes understanding the industry, manufacturing processes, and external factors that affect the market. A market survey is only one technique of market research... [Ref 30]

F. SUMMARY

In this chapter what the researcher sees as the two major interpretations of the market research requirement of the CICA were presented. For the remainder of this thesis the material presented is predicated upon the assumption that the broad view of the requirement is the correct one.

The next chapter deals with the definition of market research and some general areas in which research might be conducted. The principal elements of an effective market research program and possible organizational approaches are suggested.

IV. WHAT IS MARKET RESEARCH?

A. INTRODUCTION

The definitions of market research touched upon in the previous three chapters will be examined in more detail and areas to be researched will be presented.

This chapter deals with market research as if it were virtually synonymous with purchasing research. The one exception which has been mentioned previously will be discussed in more detail. The concepts presented are taken from the fields of purchasing research and marketing research.

Indeed, this would appear to be the most appropriate approach. Attempts to find sources of information under the heading of market research invariably leads one to the field of marketing.

B. SHORTAGE OF INFORMATION ON THE ACTUAL PROCESS

Little was found in the literature that addresses how purchase research is actually conducted or how one might manage a purchasing research organization.[1] The works of Dr. Fearon and others writing textbooks on purchasing and materials management provide information on what subjects are researched.

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[1]Why there is such a shortage of information on the subject of purchasing research in industry is not absolutely clear. One reason may be that companies do not find it in their best interest to 'share' information on how the go about doing purchasing research. They may feel that to do so would give away some of their competitive edge.

Examples of purchase research organizations in firms that have such an operation are discussed. What they do not address are the critical issues for a manager of purchasing (market) research operation. Nor is there a discussion of the steps to be taken in conducting research or what the roles and relationships of researchers and the managers might be in such an organization.

The 1971 edition of a particular textbook on purchasing devoted an entire chapter to the subject of purchasing research. The authors explained the reasons for developing a purchasing research function and cited Dr. Fearon's thesis as the "...most comprehensive study of the extent and nature of purchasing research yet made..." [Ref. 7: p. 259] However, more recent editions of this textbook have dropped the chapter on purchasing research. Other texts currently in use are similarly devoid of a reasonable amount of useful information on, or in some cases even the slightest reference to, purchasing research.

C. DEFINITIONS

Research "...connotes a systematic, objective, and thorough investigation of a subject or problem in order to discover relevant information or principles." [Ref. 19: p. 2]

Market research (the researcher's definition)- the collection and analysis of data to **improve the quality of specific decisions** which must be made **within the existing framework of the procurement process.**

Acquisition research (the researcher's definition) - examinations of processes and previous results which hopefully will lead to **improvements in the procurement process** as a whole or some specific aspect of it.

Marketing research - the systematic and objective search for and analysis of information relevant to the **solution of marketing problems.** [Ref. 19: p. 3]

Purchasing research (Dr. Fearon's definition) - the systematic collection, classification, and analysis of data as the basis for **better purchasing decisions.** [Ref. 31: p. 5]

The key distinction the researcher makes between market research and purchasing research is related to investigations of the effectiveness or efficiency of the procurement process. Research into the purchasing system (policies and procedures) falls within the umbrella of purchasing research as it is applied in industry. This should fall under the definition of acquisition research in the Federal procurement process.

It is believed that the intent of the CICA was to sharpen the focus on planning and research for execution of the procurement action at hand and to do so within the guidelines that exist at that point in time. The intent did not appear to be further encouragement to question whether or not the tools available or methods in vogue were appropriate. Although some questioning of tools and methods may very well be a natural fallout of a market research program, it is not believed that was intended to be a main feature of the market researcher's charter.

D. SUBJECT AREAS FOR PURCHASING RESEARCH

Dr. Fearon introduced the subject areas for purchasing research by pointing out that even those firms large enough to have a full time research staff must have some method of deciding where to invest their research time and dollars. He points out that by far most firms rely on the value criteria most frequently. A list of the criteria are shown in Figure 1. This list with additional characteristics that make up each criteria are contained in Appendix A. [Ref. 31: p. 17]

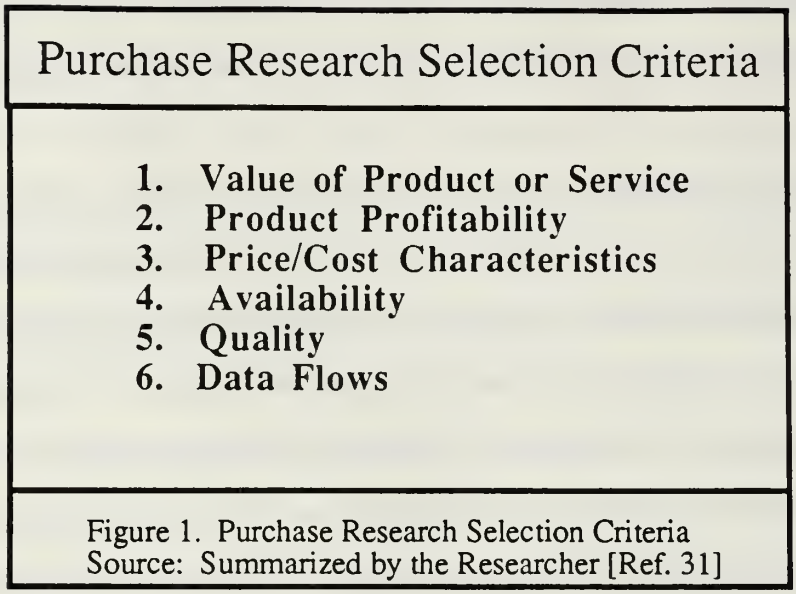

Figure 1. Purchase Research Selection Criteria
Source: Summarized by the Researcher [Ref. 31]

Dr. Fearon divides purchasing research into four subject areas; (1) Purchased materials, products, or services, (2) Major purchased commodities, (3) Vendors, and (4) Purchasing system (this subject area will not be dealt with any further).

He subdivides each of these subject areas into specific topics to be researched. Each subject area will be described briefly, followed by a list of topics within it.

1. Research on Purchased Materials, Products, and Services

The research conducted in this area is concerned primarily with the specific items or services being purchased [Ref. 31: p. 18]. Many people think of this area concerning itself primarily with a value engineering approach. Indeed value engineering methods and results are a large part of this area. However, the list of specific topics shown in Figure 2 includes considerations outside of the scope of a typical value engineering study. Additional detail on this subject area is provided in Appendix B [Ref 31: pp 18-20].

Purchased Material, Product, or Service
1. Economic Order Quantity 2. Lease or Buy 3. Make or Buy 4. Method of Production 5. New Product 6. Packaging 7. Scrap, Disposal, Recovery 8. Standardization 9. Substitution 10. Transportation

Figure 2. Research on Purchased Material, Products, or Services
Source: Summarized by the Researcher [Ref. 31]

2. Research on Major Purchased Commodities

The first thing that should be made clear about this subject area is that a commodity in this sense is not necessarily something that is traded on a commodity exchange such as wheat, porkbellies, or gold. A commodity in this sense is more or less a type of item that can be attributed to a specific industry or type of manufacturer. For example, items such as valves and associated hardware, electric motors and controllers, or forgings and castings might be considered as three distinct commodities by a buying activity.

Another feature of these types of studies is that they might be "...classified as economic studies, since it is directed at providing predictions,...about the short-term and long-term future purchasing environment..."[Ref. 31: p. 20] The topic areas for a commodity study are shown in Figure 3 with much more detailed presentations provided in

Appendix C [Ref. 31: pp. 20-24]. Looking at the topics which might be investigated by a commodity study, it should be apparent that knowledge of a number of areas - economics, manufacturing, quality control, etc. - is required.

Major Purchased Commodities
1. Current Status 2. Production Process 3. Uses of Items 4. Demand 5. Supply 6. Price 7. Strategy to Reduce Cost

Figure 3. Research on Major Purchased Commodities
Source: Summarized by the Researcher [Ref. 31]

3. Research on Vendors

Dr. Fearon describes the two preceding areas of research as focusing primarily on the items being purchased, whereas this area focuses on the actual source of the purchase [Ref. 31: p 24]. The first two areas might also be thought of as providing information needed for an understanding of the marketplace as a whole, while this area deals with specific information to assist in final selection of and negotiation with sources. The topics within this subject area are shown in Figure 4 detailed provided in Appendix D.

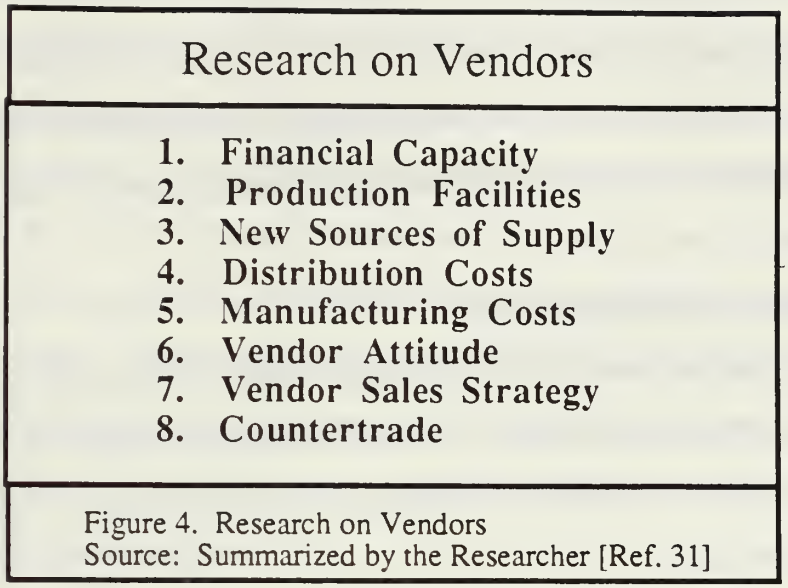

Figure 4. Research on Vendors
Source: Summarized by the Researcher [Ref. 31]

E. APPLICABILITY TO GOVERNMENT PROCUREMENT

Some of the topics listed in the preceding section are of little or no concern to the Federal government procurement manager. This does not diminish the value of looking at the industry approach to purchasing research in order to answer the questions about what the Federal government should be doing. The presentation of the material in this manner is appropriate based on the researchers view that the methods and results of **purchasing research** and what has been interpreted as the 'broad view' of **market research** are essentially the same.

An appendix included in the previously mentioned Logistics Management Institute study detailed some useful information on subjects for and use of market research tailored specifically toward government procurement [Ref. 16: pp. C1-C3]. Appendix C of the study is reproduced as Appendix E of this thesis.

F. PRINCIPAL ELEMENTS

What are believed to be the principal elements of an effective market research program are presented in this section. These were developed by the researcher based on an analysis of the literature reviewed and observations of both government and private industry practices.

1. Criteria for Project Selection

An effective market research program must have an established process for the selection of projects to be pursued. This was touched upon earlier in this chapter. The problems of limited resources and seemingly unlimited information requirements dictate that this be the case.

Take the example of the U.S. Navy's Ships Parts Control Center (SPCC) located in Mechanicsburg, Pennsylvania. This activity is tasked with managing in excess of five hundred thousand line items of spare parts. These items range from relatively low technology / low price to very high technology / very high price. These items could be segregated into various commodity, annual cost, or criticality groupings. Even when segmented in various ways, the number of major market research project candidates is staggering.

Whether or not an organization consistently applies an appropriate selection criteria to potential research projects is for the most part a function of management's belief in the contribution of and commitment to an effective research program. The lack proper selection criteria could result in valuable time being wasted researching an item or commodity that is demanded so infrequently that the cost of maintaining or updating the research project would too high.

2. Proper Research and Analysis Skills

Once management has determined what project will be pursued the appropriate research and analysis techniques must be brought to bear. Referring back at Figure 4 (Research on Vendors), one can see that the research project may involve analysis of financial capacity as well as production facilities. It may be that someone trained in financial analysis could also have a superficial understanding of production processes and facility requirements. Unfortunately, a thorough research and analysis job requires more than superficial knowledge. It is senseless to gather a great deal of potentially useful data and then fail to apply the requisite skills to analyze and interpret its meaning.

3. A Methodical Approach

A market research program will delve into a variety of areas related to purchasing. Many of the areas looked into will require a subjective evaluation or one that is difficult at best to quantify. Nonetheless, an effective market research program must be approached in a methodical[2] way.

Scientific principles must be applied to the greatest extent possible. As the authors of one book on marketing research put it, "Research within the discipline of marketing may not be purely scientific, but a scientific approach can be used if certain precautions are observed." [Ref. 20: p. 29] The author of another marketing research textbook wrote,

> There are as many different steps to be followed in conducting primary research as there are books on the subject. The most important element, common to all of them, is the fact that they rest on a methodical approach. [Ref. 17: p.31]

2Webster's defines methodical as being - characterized by method;orderly;systematic. Method is defined as - 1. a way of doing anything; mode; procedure; process: especially a regular, orderly, definite procedure or way of teaching, investigating, etc. 2. regularity and orderliness in action, thought, or expression; system in doing things or handling ideas.

The author went on to say that, in marketing research, many of the things being studied were in a constant state of flux and we need not cause ourselves additional problems through the application of faulty research techniques. The conditions of uncertainty with which the researcher must contend are further compounded by the limitations of time, money, and skill.

Certainly this assessment of the problems of conducting **marketing research** cannot be very different than those that must be reckoned with in **market/purchasing research**. A methodical, thorough, and to the maximum extent possible, objective, approach must be taken by the researcher.

No matter how good the research procedures are they must be applied in a consistent and organized manner. If the personnel assigned to do the research have other duties which cause them to put the project aside and work on it only as time permits, the result will probably be less than satisfactory. It is also likely to be inefficient. Take the case of a project being worked for an industry that is experiencing rapid change. If the researcher cannot devote the time to keep abreast of the changes, a great deal of time may be wasted trying to catch up on a backlog of changes all at once.

4. Timely Information

In order to be effective a market research program must be able to get information to management or the buyer in time to be used in the decision process. Failing this an organization cannot justify the resources expended on a market research program.

The comment in the Logistics Management Institute study about "...absence of lead time to assimilate its results in acquisition plans [Ref 16: p 2-12]." points out one of the more difficult problems the market research manager must address. Without a methodical,consistent approach it is highly unlikely that the time constraint issue can be dealt with effectively.

If one must start from the beginning each time a major market research report is required, it will probably be completed too late to used in the procurement. However, if a commodity study has been completed and updated periodically by the researcher(s), it should only be a matter checking to see that it is in fact current before it is put in the buyer's hands in time to aid in planning the acquisition.

5. Effective Communication of Findings

An effective market research program must have an means of getting the right information to those who need it. In order to be effective the information provided must be in a form that is **understandable** and **useful** to the manager,buyer, or other decision maker. If the analysis is presented in terms that only a financial expert or manufacturing process engineer could understand, it will in all likelihood be useless to the average procurement manager or buyer.

If management does not insist on solid, useful analysis of the information collected, it has failed those it was hired to serve. This idea is expressed rather nicely in the quote which follows. It comes from a book on the subject of industrial marketing but it would certainly seem to be applicable to market research.

> Any researcher who contents himself with producing scientifically correct data and submitting it in a voluminous, detailed report is most seriously shortchanging the most crucial aspect of his job. Any management which does not expect, yea demand, an effective presentation and application of the data is shortchanging itself. [Ref. 22: p. 224]

The five principal elemants of market research as presented in this section are summarized in Figure 5.

Market Research Principal Elements
1. Criteria for Project Selection 2. Proper Research & Analysis Skills 3. Methodical Approach 4. Timely Information 5. Effection Communication

Figure 5. Principal Elements; Effective Market Research
Source: Developed by the Researcher

G. THE RESEARCH ORGANIZATION

Three general methods of organizing for market (purchase) research were found in the literature.[3] A fourth approach is suggested by the researcher.

The four approaches to organizing for market research are described below. Along with each approach the researcher's assessment of each approach vis à vis the five principal elements of an effective market research program is provided.

1. Assignment of Full Time Staff

This type of organization is typically made up of properly educated/trained personnel with research and analysis skills. Not assigning any actual purchasing responsibilities or authority to research staff personnel is another key feature recommended for this organizational approach [Ref. 7: p. 264].

[3]Something called a committee approach was mentioned. Very little was said about it. It would appear to be more or less an ad hoc approach and one which the researcher felt did not merit any further consideration.

To what extent companies used this approach was the subject of Dr. Fearon's Doctoral thesis. Based on his research,he concluded that firms with purchasing research staffs: (1) Perform more research, (2) Utilize more and better data, (3) Improve research results, and (4) advance purchasing administration [Ref. 32: p. 499]. Another finding of his research was that:

> Those companies with a purchasing research staff achieved a higher percentage of profit to sales and to invested capital, at least during the survey period, than companies without such a staff. The better financial performance is not necessarily due solely to the presence of the purchasing research staff, although those higher profits do lend credence to the idea that the more successful companies have been somewhat more aggressive in their management of various activities of the purchasing function.[Ref 33: p 12]

One of the respondents to Dr. Fearon's surveys offered the following points in support of the staff research approach, "Regardless of how good a thing is, it must be continuously promoted, and this will come about only when it is assigned as a specific full-time responsibility." [Ref. 33: p. 13]

Project Selection Criteria - With this approach the researcher may be grossly over qualified for some research projects that should be undertaken. This may cause management some confusion in the application of project selection criteria. A project may be rejected not because it isn't worthwhile, rather it may be rejected because it is 'too mundane' for the sophisticated researcher.

Research and Analysis Skills - This should be one of the strong points of this type of organization. If management has made the commitment to have this type of staff, it is reasonable to expect that it be properly staffed.

Methodical Approach - Along with proper staffing this should be one of the strong points of this organizational approach.

Timely Information - Given the proper skills, a methodical approach, appropriate management, timely information should be possible.

Effective Communications - It is not reasonable to expect that this approach would necessarily facilitate the effective dissemination of information. Frequently communication between staffs and users of staff services is a major problem. Staff personnel occasionally tend to lose site of their clientele and set their own agenda [Ref. 33: p. 15].

2. A Responsibility of Purchasing Personnel

Assigning a research function as one of the many duties of purchasing personnel is an accepted approach. The researcher posed the question"who actually conducts market (purchase) research within the organization?" to a number of purchasing officials from both Federal and State government. In many cases the response was that none was conducted. Another frequent response was that "if any research gets done, it is done buy the buyers themselves."

In his survey of industry, Dr. Fearon found executives of three large firms that felt that research should be done by purchasing personnel [Ref. 33: p. 16]. In his 1975 update on the subject he also lists this as one of two ways a firm could approach purchasing research [Ref 31: p. 6]. The Logistics Management Institute study reflects the view that market research is to be accomplished by procurement personnel. One of their recommendations was that the Navy "Develop a market research training program for procurement personnel..." [Ref. 16: p. 2-14]

There are cases where an excellent argument can be made for the case of the buyer and the researcher being one and the same. "Where a few basic materials - for example, hides, fibers, minerals, or coffee - account for a large part of the volume, a purchasing research section would probably be superfluous." [Ref 7: p. 263]

Project Selection Criteria - There would be a great deal of incentive to apply effective criteria for research project selection. One would think that the increased

pressures of resource limitations as compared to the staff approach should force management into success in this area.

Research and Analysis Skills - The principal of applying proper research and analysis skills is the least likely to be achieved. It is possible to hire someone in purchasing with a technical background and teach them how to gather information for a commodity study. But when it comes time to analyze the information most individuals will require assistance. It is more often the case that purchasing personnel lack the skill as well as the time to conduct useful research. If the people conducting the research are short on research and analysis skills the likelihood that the approach would be methodical is not gooc either.

Methodical Approach - The likelihood of success in terms of a methodical, consistent approach is not very good. It would take a considerable amount of discipline on the part of both management and buyers to avoid the temptation to put a research project aside in favor of some other demands being placed on the purchasing agent's time. Doing research on a 'catch as catch can' basis is not likely to produce a high quality product.

Timely Information - Timeliness may be poor. Since there are likely to be problems in terms of a methodical, consistent approach the chances of half done or abandoned research projects is greatly increased.

Effective Communications - Information should be communicated in an effective manner since the individual requiring the information would be the one compiling it.

3. A Combination of Buyers and Staff

One of the firms visited by the researcher successfully employed this approach to purchasing research. As indicated in the preceding section further information on this particular firm will be presented in Chapter VI.One of the firms surveyed by Dr. Fearon favored this approach.

Our purchasing research is carried in two ways:
(1) By the buyer when a project relates to his responsibilities and if it can be completed promptly without detracting from his regular assignments.
(2) By our purchasing research staff when the project is of unusually wide scope and would be too time consuming for the buyer.
The benefits of purchasing research by the buyer cannot be overstated. Without it our purchasing operation could not function efficiently. Having a full-time purchasing research analyst simply permits us to conduct projects more promptly and in greater detail than we could without an analyst. In fact, we doubt if many worthwhile projects would ever be completed without a full time analyst. [Ref. 33: p. 13]

Project Selection Criteria - Management should find greater flexibility in selecting and applying an effective criteria for project selection under this approach. Projects within the capabilities of purchasing personnel that do not inhibit their ability to accomplish their primary responsibilities can have the added benefit of adding just the right amount variety to their job. Knowing that they have someone to turn for assistance if they get stuck should be another added benefit. As for the staff researcher(s), being able to concentrate on major projects should be more satisfying for them also. Management should find that having the flexibility to assign research projects in a manner that also contributes to the individual's job enrichment makes it easier to establish and consistently apply effective criteria.

Research andAnalysis Skills - Being able to select a staff of specialists to take on the big projects and assist the buyers with theirs should allow management to achieve the principal of the application of proper research and analysis skills to the projects selected. This approach does not eliminate the problem of resource constraints. Management must still contend with the reality that certain projects should not be attempted.

Methodical Approach - There would appear to be nothing inherent in this type of organization that would stand in the way of a methodical approach to market research.

Timely Information - Provided that the first three elements as described and the overall effort is properly managed timely results should be possible. Certainly if the project selection criteria are well thought out, those projects assigned to buyers should be executable in a timely manner.

Effective Communications - The necessity of a close working relationship between the purchasing personnel and the staff researcher(s) should certainly help staff personnel gain a better understanding of the user's needs. This close working relationship should also help the researcher gain insight into the level at which research findings must be presented if they are to used by purchasing personnel.

4. A Matrix Organization

Matrix management is an approach used by both private industry and the Federal Government. The Navy employs it in the management of major weapons system acquisition programs. The program management staff can manage a complex weapons system acquisition by drawing on the technical and administrative expertise of personnel located in various functional groups within the systems command (SYSCOM) headquarters or field activities that report to the SYSCOM. There are two major advantages to such an approach if successfully executed. A relatively small program management staff can coordinate a very complex program. The technical and administrative personnel outside the staff can keep up to date on new developments because they are exposed to projects being worked on by others in their field. [Ref. 23: p. 2-7]

Applying this concept to a market research requirement could be one way to deal with resource limitations. In a large organization, a smaller professional research staff could be employed, if specialized talent could be drawn upon from other functional areas

when needed. This method would probably work best in conjunction with the combination approach presented in the previous section.

Project Selection Criteria - This type of organization should enjoy the same advantages as the combination of staff and purchasing approach.

Research and Analysis Skills - This should also be similar to that stated about the combination approach. In fact an even greater advantage may be realized with this approach due to the use of functional experts from other parts of the organization.

Methodical Approach - This should be achievable but there may be some problem with consistency. In having to rely on expertise in other functional areas the research group may not be able to get a consistent product out of them. This may very difficult to overcome. The manager of a functional group being called upon to contribute to research will be faced with competing demands for his limited resources. It may not be possible to provide the same individual that has worked on a similar project the last several times. That person's talents may be more urgently required elsewhere. This problem may also have an impact on the timeliness of delivery of the research product.

Timely Information - As mentioned above the added difficulty in coordinating the efforts of those beyond the research manager's direct control may cause problems.

Effective Communications - There is potential for communications problems between the functional experts in other departments and purchasing. To reduce the possibility of communications problems the professional research staff would have to interpose itself between the purchasing personnel and the other functional departments.

Management is continuously faced with tradeoff decisions. If resource limitations are severe enough and management feels the other aspects of the principal elements of an effective market research program can be met, then the matrix approach may be viable. The four organizational approaches to market research are summarized in Figure 6.

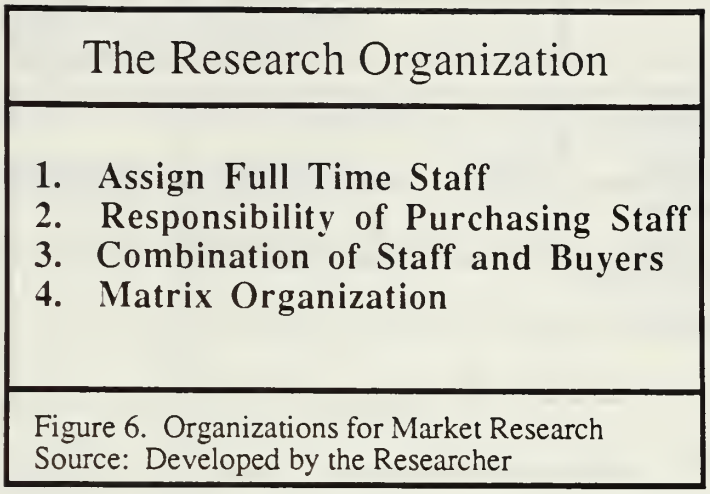
The Research Organization
1. Assign Full Time Staff
2. Responsibility of Purchasing Staff
3. Combination of Staff and Buyers
4. Matrix Organization

Figure 6. Organizations for Market Research
Source: Developed by the Researcher

At the end of the section on each organizational approach an assessment was made of the approach vis à vis the five principal elements of an effective market research program. It was not within the scope of this research to attempt to conduct any sort of empirical test of these assessments.

However, the researcher did attempt to convert this subjective assessment into a rating of each approach on a scale of one to five, with five being a rating indicating the highest probability of meeting with success against a given principal element. The evaluation of each approach with respect to success in application of proper selection criteria for projects to be pursued by the market researchers was uniformly high. It is the judgement of the researcher that, although this is a principal element of an effective market research program, it is more a function of management's realism and resolve to have a successful program than it is a function of the type of organizational approach selected.

	ORGANIZATIONAL APPROACHES			
PRINCIPAL ELEMENTS	Staff	Purchasing	Combination	Matrix
Project Selection Criteria	4	5	5	5
Research & Analysis Skill Application	5	2	5	4
Methodical Approach	5	2	5	3
Timely Information	4	1	4	3
Effectve Communication	2	4	4	3

Figure 7. Assessment of Organizational Approaches Vis à Vis Principal Elements
1 = Low probability of success. 5 = High probability of success.
Source: Developed by the Researcher

At this point a few remarks about the number of personnel needed for purchasing research as well as the type and variety of skills would be appropriate. The number of personnel and the skills required will be dictated by many factors. Some of the more critical factors that management must consider are what areas to be researched, what are the resource constraints, and what is the depth and detail of analysis required. Perhaps the following passage will put the problem in a little better perspective for the reader:

> Is there any yardstick to determine the number and qualifications of people to be assigned to purchasing research in a company of a given size, with a given volume of purchases? Not any more than there is for determining the size of the purchasing department itself. Buying for a steel company, although by no means simple, is much less complex and subject to fewer competitive pressures than purchasing for the automobile industry. So the attendant research requires fewer people with greater emphasis on specialists in economic and commodity trends, than in manufacturing processes. [Ref 7: 262]

H. SUMMARY

This chapter has provided a definition of market research. More importantly, the principal elements of an effective market research program and the organizational approaches offered provide a foundation upon which a model can be built. This model can assist management to oversee a market research program. Such a model is presented in the next chapter.

V. A MANAGEMENT MODEL

A. THE NEED FOR A MANAGEMENT MODEL

The idea of **improving decisions** is one of the most important concepts put forth in the definitions of market research and purchasing research. Indeed, improving decisions is also a key reason for conducting marketing research. The emphasis should be on useful information that can be applied to satisfying the requirement at hand. To do this, the manager's focus must be on sifting out information relevant to the decision process, not on the technical aspects of the research itself [Ref. 22: p. 225].

As stated earlier there is little information on actual research techniques to be applied to a market (purchase) research problem. The available information is also deficient in providing guidance to the manager about key decisions to be made along the way as a market research project passes through various stages from inception through completion. This type of information is needed. Particularly for the organization desiring to establish a market research function.

In this section a market research management model is presented. This model was developed by **adapting a marketing research** procedure **to** the **market research** definition, principal elements, and organizational alternatives presented thus far [Ref.17: pp. 29-79]. This approach was deemed necessary for two reasons. First, as mentioned above, there are deficiencies in the available information. Second, the research techniques in the field of marketing research were found to be well established and based on scientific methods.

B. THE FOUR PHASES OF MARKET RESEARCH

The process of market research can be divided into four phases. These are (1) Requirement Definition Phase, (2) Planning Phase, (3) Data Collection Phase, and (4) Analysis and Interpretation Phase. Each of these phases will be discussed along with various steps required and decisions which must be made along the way. At the end of each section there will be a flowchart showing the major decision points.

1. Requirement Definition Phase

This is the initial phase of the market research process (illustrated in Figure 8). The first step in this phase is a review of the scope of the proposed project. The scope must be sufficiently defined so that management can assess how the project relates to the purchasing decision(s) it purports to aid. Some proposed research projects such as a commodity study will serve a variety of decisions on a host of future purchasing requirements. In such cases management may face a high degree of uncertainty in trying to assess the adequacy of the scope and potential benefits.

In this phase management must determine the nature of the requirement, subject it to predetermined selection criteria, and make resource allocation decisions. The decision whether or not to go ahead with a project and other decisions critical to the success of a research project are made in this phase. Some decisions must be made on preliminary data. Therefor, management must bear in mind that the decision to proceed may have to be reviewed as the research project progresses.

The goal of this phase is to provide sufficient definition to an acceptable research project so that plans to accomplish it can be made

a. Nature of the Requirement

What is the nature of the research project being considered? Is it new research, an update of a prior research project, or the expansion of the scope of a prior

research project? The answers to these preliminary questions will affect on the amount of time and resources required to complete the project. In the case of new work, the certainty of cost to complete as well as certainty of success will probably be lower than with an update or expansion of prior research.

The information used in the decision to update a prior project should quite sound, both in terms of cost and success. Likewise, the quality of the information available to make a decision to expand the scope of prior research should be quite good. Maybe not as good in the case of an update, but better than the information for new work.

The precise nature of what is to be attempted should be described sufficiently to permit evaluation of merit and determination of resource requirements.

b. Application of Selection Criteria

One of the principal elements of an effective market research program was concerned with criteria for project selection. Management must look at the proposed research projects with respect to such things as how it fits within the organization's mission interests or authority, cost guidelines, the time frame within which the information is required, workload considerations, and other resources which may be required.

In the case of SPCC, a proposal to research the possibility of acquiring the source of supply should be rejected out of hand. It is not within the command's scope of authority to acquire sources of supply. An investigation involving a make or buy decision would be acceptable from a mission standpoint. SPCC could recommend to higher authority that an organic capability to produce a critical item be pursued.

A proposed research project should be looked at in terms of potential costs. Levels of approval of authority based on the estimated cost of a proposal would be appropriate.

Management should evaluate the proposal in terms of the estimated time to complete. Take the example of a proposed project to support a decision which must be made within thirty days. The estimated time to complete the project is sixty days. It should be reviewed to see if the time to complete is accurate. If it is accurate, then management should assess the possibility that the project could be reduced in scope such that it could be completed within the time limit and still satisfy the decision support requirement. If the thirty day deadline cannot be met, the project should not be attempted. As an alternative the project could be shelved for later use if conditions permit.

Another selection criteria should be the current/projected workload and available resources. Magnitude of the proposed project, impact on the schedule of other in progress or planned projects, as well as the existence of the necessary skilled personnel and equipment are all factors which management must take into consideration.

c. Project Assignment

The last step in the Requirement Definition Phase is the determination of who should be assigned to pursue the project. The number of possible alternatives will depend on what type of market research organization has been chosen.

If the function is assigned to a market research staff there are basically two alternatives. The research project could be assigned to an individual or to a team. This decision should be predicated on the factors such as projectcomplexity, schedule, and talents of the individuals on the staff. If the market research function is assigned as part of the job of purchasing personnel, the assignment alternatives are essentially the same.

If the market research function is performed by a combination of staff and purchasing personnel there are five basic alternatives. They are the individual staff researcher or individual purchaser, team of staff or purchasing personnel, a combination of staff and purchasing personnel.

Under a matrix organization the five alternatives of the combination organization are available. In addition to these, decisions on tasking of personnel in those other functional areas which support the research staff capabilities must be made.

The Requirement Definition phase is illustrated in Figure 8.

2. Planning Phase

During this phase, those assigned to carry out the research project must study the requirement and determine what specific data are required, how to go about collecting the data, and what tools will be needed to process and analyze the data. The results of the planning phased must be reviewed with management. The results of the determinations made during the planning phase may dictate that management revisit the proceed with the project decision and the project assignment decision.

a. Type of Data Required

There are two types of data that may be required. These two types are primary and secondary data. Primary data are defined as "...that the researcher originates from an original source for the purpose of the immediate study..." Secondary data may be defined as "...data copied from published sources and therefor not originated for the purpose of the particular study." Primary data are often desirable in that "...the researcher has control over the acquisition, classification, and tabulation of such data." [Ref. 20: p 225]

Since primary data are originated specifically for the project at hand, one might think that it would always be preferable. The cost and time required to collect primary data may be prohibitive in some cases [Ref. 20: p. 225]. The possibility of generating something that is no better than that which could be obtained through secondary sources must be considered.

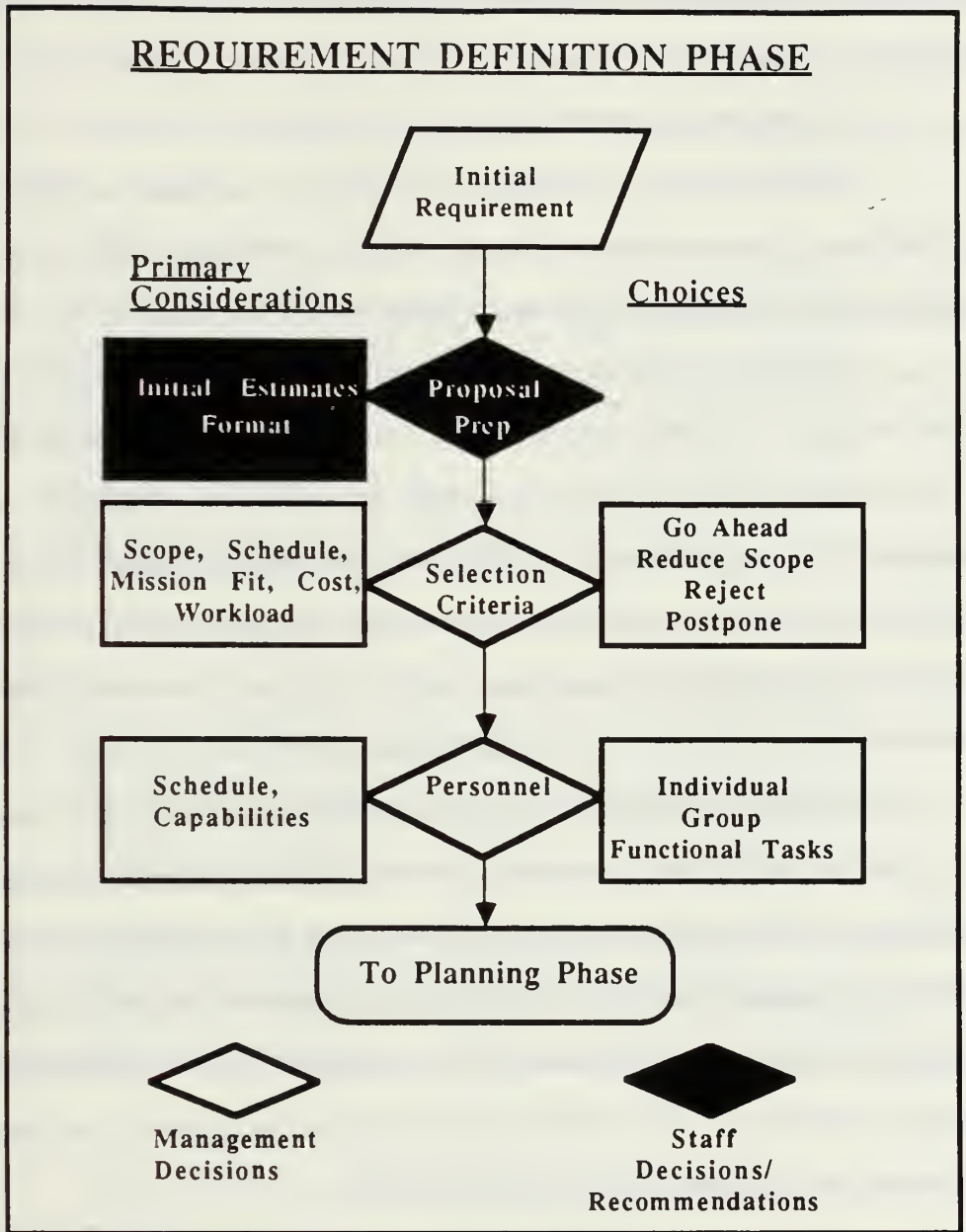

Figure 8. Market Research Management Model: Requirement Definition Phase
Source: Developed by Researcher

During this phase the type of data required must be determined. An estimate of the cost and time involved in collecting the data is required for management review prior to entering the next phase of the project.

b. Collection Methodology

The determination of collection methodology is necessary only for primary data collection. There are four data primary collection methods. These methods are historical, survey, observational, and experimental. [Ref. 17: pp. 37-39]

The historical method involves collection,sifting, and sorting of data from published records. This method applies to the collection of secondary data. The other three methods apply to the collection of primary data. The survey method is typically accomplished by asking questions. It is also know as the questionnaire technique. The observational method involves the direct measurement of actions, reactions, or responses. The experimental method tries to determine the effect of a specific variable by controlling the other variables. [Ref. 20: pp. 37-39 and 66-79]

In market research the historical and the survey methods will be most often used. If the survey method is selected, factors such as the cost of developing and administering a questionnaire or the revision of an existing questionnaire would have to be taken into account. Because of the nature of information available that is applicable to the field of market research, secondary data gathered through the application of the historical methodology probably will be selected in the majority of the cases. A list of sources of market research information is included in Appendix F.

c. Analysis Tool Requirements

The market researcher must consider the type of analysis tools that will be required to manipulate the data collected. It is of little value to plan to gather large quantities of data without considering the tools needed to make sense of it.

Consider a plan that calls for the use of secondary data that is available only on magnetic tape. Suppose there is no in house capability to process magnetic or the cost of having the data converted to a useable form elsewhere is staggering. An alternate data source would have to be considered or consideration would have to be given to scrapping the project.

What if a certain type of analysis tool would have to acquired? It would have to be evaluated in light of the possibility of its being used only once or on future projects. Some types of tools to be considered would be spreadsheet, data base, and decision support modeling software.

d. Project Review

At this point planning information on the type of data required, amount of data required, collection methodology, and analysis tool requirements should be complete. Management needs to review the decision to proceed with the project and the personnel assigned to it if the decision is to proceed with project.

The planning effort should provide additional insight that would enable management to improve the quality of the project assignment decision. It may be that more or fewer resources will be required than were anticipated based on the information available during the Requirements Definition Phase. It may that a different individual should be assigned. Instead of a group, maybe it should be given to an individual, or vice versa.

Cost, schedule, or workload considerations may have been made clearer or changed since the original go ahead was given. If conditions warrant, management should terminate the project at this point before any additional costs are incurred. The costs involved up to this point probably will be minor compared to those that will be incurred once actual data collection and analysis is commenced

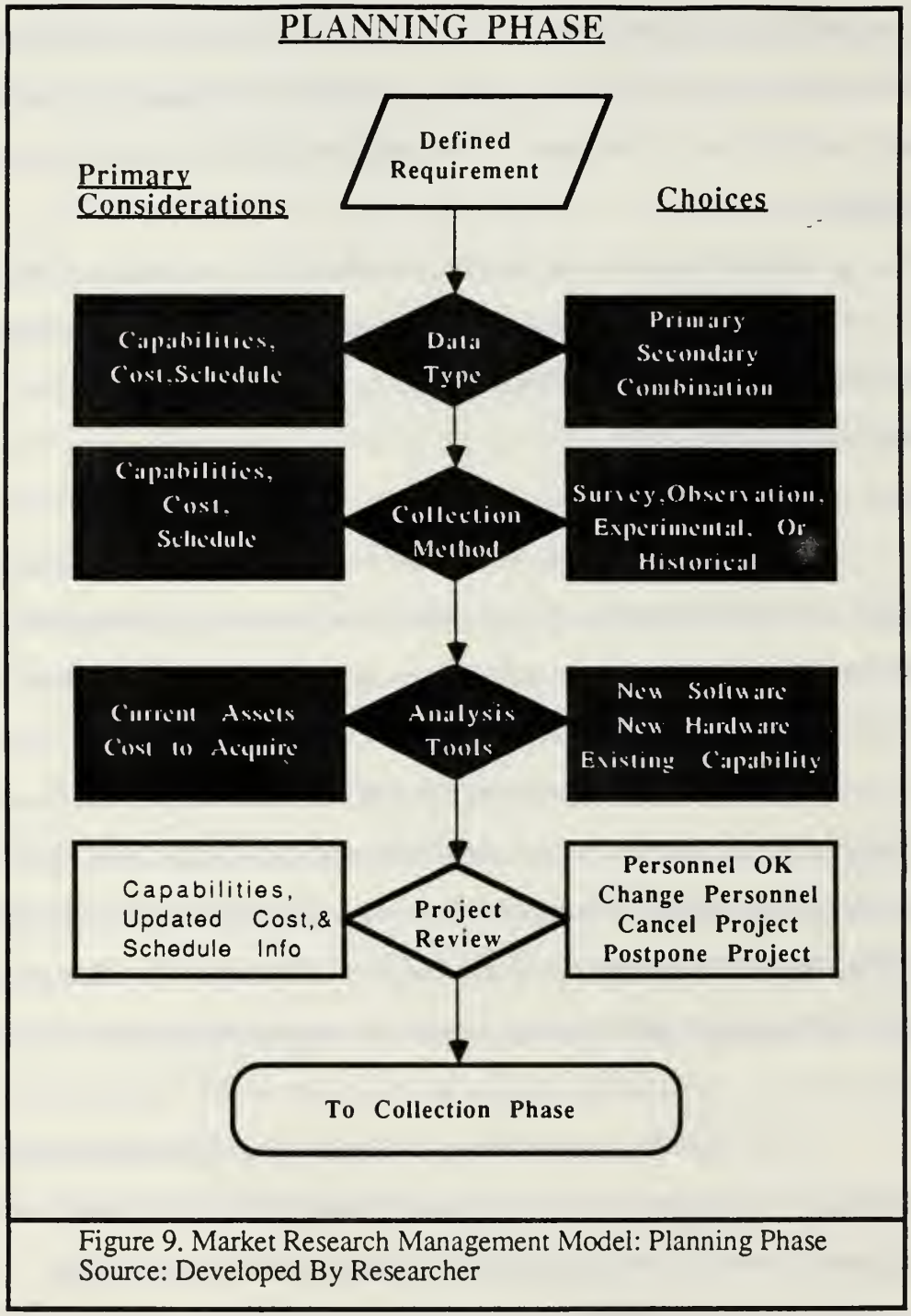

Figure 9. Market Research Management Model: Planning Phase
Source: Developed By Researcher

3. Collection Phase

This phase (illustrated in Figure 10) involves the collection of the raw data necessary for the analysis. It may involve a variety field work such as administration of surveys. It may require research in libraries, electronic data bases, or review of internal data. In addition to collection, the data must be checked for accuracy, applicability, and source reliability. During this phase data files may be constructed for subsequent manipulation and analysis.

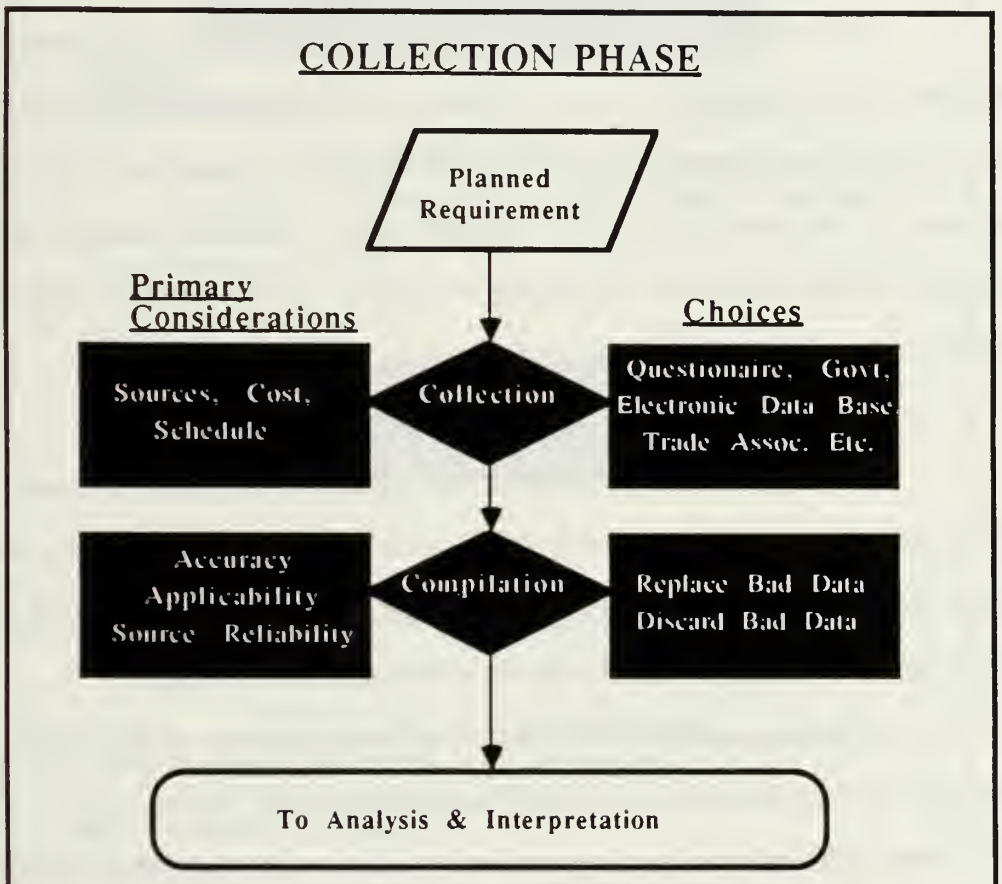

Figure 10. Market Research Management Model: Collection Phase
Source: Developed by Researcher

4. Analysis and Interpretation Phase

While there are many critical junctures throughout a research project the Analysis and Interpretation phase (illustrated in Figure 11) can frequently be the most critical. Selection of the wrong procedures, undetected bias in the data , or a faulty interpretation can result in the waste of a considerable amount of resources. A purchasing decision based on faulty data or incorrect interpretation can be very costly. It may be worse than the decision that would have been made without any input from research.

a. Project Review

The resources assigned to the research project need to be reviewed at least once more during this phase. It may be necessary at the beginning or at a later juncture. It may be determined during this phase that the individual assigned to the project needs assistance in interpreting the results. It may be that some of the personnel originally assigned to the project can be reassigned elsewhere. Possibly some other talent or resource needs to be brought to bear on the project.

b. Analysis, Interpretation, and Reporting

This is the culmination of the research project. This where the research must be converted to information useable in the decision process. If this is not the end result then the project truly will have been a waste of time and money. The following are some thoughts from on the matter taken from a book on industrial marketing.

"Too often market research is rendered useless because it did not bring clearly to the fore the key information to be used in decision making." The author also points out that the user of the information should not have to understand the research problem, the researcher's job to understand the user's requirements and satisfy them. On the other hand those requiring the information must accept the fact that the researcher should not be expected to make the decision for them. [Ref. 26: pp. 229-230]

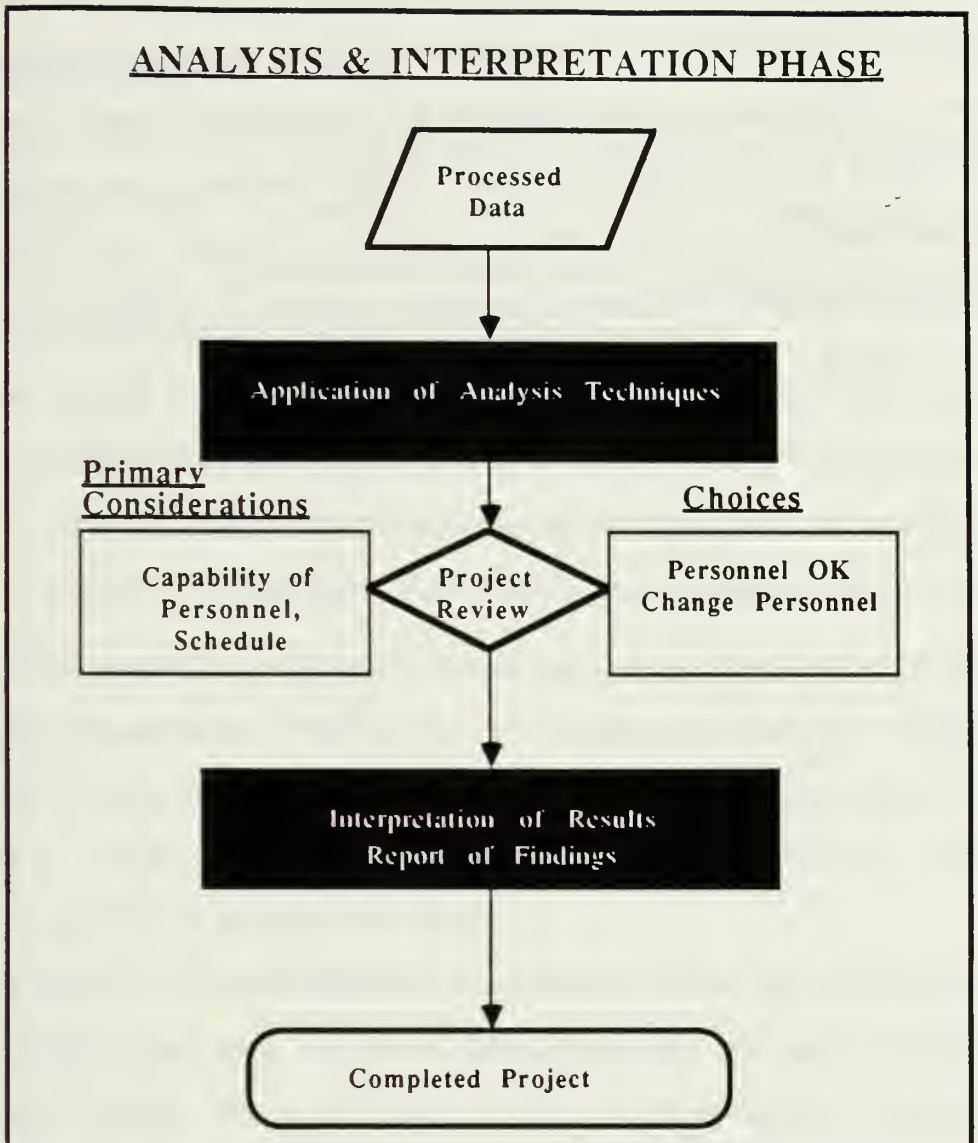

Figure 11. Market Research Management Model: Analysis & Interpretation Phase
Source: Developed by Researcher

C. SUMMARY

It is recognized that the model offered in this chapter needs to be further refined. Nonetheless, it is felt that it can be useful to the activity that has no market research program in effect yet needs a better understanding of what will be required to establish one. In the Chapter VI some current practices in the area of purchasing research as well as activities related to the field of market research are reviewed. In Chapter VII a recommended approach to organizing for market research at a Navy Inventory Control Point is provided.

VI. CURRENT PRACTICES

A. INTRODUCTION

In this chapter some examples of current industry practices in the area of market (purchasing) research are described. Activities related to market research at Navy commands visited by the researcher are also described. The results of inquiries made of State government purchasing organizations are mentioned briefly.

The National Association of Purchasing Management (NAPM) was contacted to inquire about industry practices in the area of purchasing research. Although the NAPM does not have any current data on purchasing research, they were able to suggest some firms to contact. Following this initial inquiry the researcher contacted GE Major Appliance Business Group (MABG) in Louisville, Kentucky[1] and Polaroid Corporation, Waltham, Massachusetts. The GE plant in Louisville was visited and Polaroid was contacted by phone. In addition to these two large companies, two smaller companies were contacted. A visit was paid to Williams and Watts, Inc. in Fairfield, New Jersey, and FMS Corporation in Los Angeles, California.

The Council of State Governments in Lexington, Kentucky, the National Institute of Governmental Purchasing, and several State government purchasing activities were contacted by phone. The results of these contacts yielded essentially no information of interest concerning organized purchasing research efforts by State governments.

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[1]The General Electric Company is no longer. It is now officially GE. [Ref. 34: p. 74]

Several Navy activities were contacted. The five of greatest importance to this research were the Competition Advocate General of the Navy, Naval Supply Systems Command (PML-550), Ships Parts Control Center (SPCC), Aviation Supply Office (ASO), and Price Fighters.

B. GE MAJOR APPLIANCES BUSINESS GROUP

At the corporate level GE has a purchasing group[2]. The majority of the actual purchasing actions to support GE's manufacturing facilities are done by what GE calls 'purchasing councils.' The Major Appliance Business Group (MABG) facility in Louisville is the council leader for the major appliance segment of GE.

The Louisville site manages purchasing for over 15,000 line items which support operations at the seventeen different manufacturing sites included in the MABG. The purchasing research effort is organized as a combination of staff and purchasing personnel.

The buyers are organized along commodity lines. Periodically each buyer must complete a commodity study. This is an in depth research project that delves into many aspects of the commodity groups which the buyer is assigned. Examples of what goes into a GE MABG commodity study are provided in Appendix G. A full time research staff known as Advanced Purchasing is tasked with research projects which are beyond the capability of the buyers, support the efforts of all buyers, or which the buyers do not have time to accomplish. The staff also assists the buyers with their commodity studies.

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[2]In the area of purchasing GE is one of the premier corporations in the United States. GE was awarded ***Purchasing*** magazine's first annual 'Medal of Excellence' for purchasing in 1984 [Ref. 35]. Other segments of GE were not studied but the researcher can attest to the fact that the MABG purchasing operation is first rate.

C. POLAROID CORPORATION

Polaroid Corporation also employs a form of the combination approach to purchasing research. There is a Manager of Purchasing Research at the corporate level who works for the Director of Worldwide Purchasing. The following describes the role of purchasing research at Polaroid:

> Purchasing research has also broadened the scope and effect of its function through:
> - proposing negotiation tactics and strategies
> - counseling buyers on relevant data sources
> - assisting buyers in formulating personal computer applications
> - improving formulating and reporting systems
> - compiling and tracking Cost Avoidance/Cost Reduction projects and associated dollar savings

> Choosing the right individual to do purchasing research is the key. The buyer wants assistance, not someone to take over the negotiation.[Ref. 36: p. 50]

The last point in this statement says a great deal about the importance of the researcher being able to communicate research finding. Buyers normally will not refuse genuine assistance. The staff purchasing researcher that complains that buyers don't use the research product should first reflect on how he or she is communicating that 'helpful' product to the buyers.

One of the techniques being used at Polaroid is to teach buyers how to do some of their own research using electronic data bases such as Dialog[3]. As the Manager of Purchasing Research pointed out though, this can be very expensive research if the user is not properly trained. [Ref. Phone Conversation: # 10]

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[3]Electronic data base services charge for CPU (central processor unit) access time plus printed copies of information in some cases. The untrained user can run up a large bill and not have much real research to show for it.

D. TWO SMALLER COMPANIES

Two smaller companies were visited during the course of this research. Neither one had a specific function that they identified as purchasing research as described thus far in this thesis. Both are of interest from the standpoint of how they are currently accomplishing their purchasing functions and what they may need to do as they continue to grow and expand their business base.

1. Williams and Watts Inc.

Williams and Watts, Inc. is located in Fairfield, New Jersey. It is a privately held company under sole ownership with sales in excess of $22 million dollars in 1986. There has been a company by the same name since the 1940's but the corporation that exists today was formed in 1976. The company as it is today got its start supplying repair parts to private shipyards conducting overhauls of U.S. Navy ships. Eventually the company proved its expertise in this area and began to receive contracts to purchase, receive, inspect, and deliver entire On Board Repair Parts (OBRP) packages for new construction and overhaul ships.[Interview: 13]

Williams and Watts does not have a purchasing research organization as such. The point of interest from the standpoint of market (purchasing) research is that they do perform an extensive amount of technical research. The fact that they do technical research is of little interest. What is of interest is the fact that the majority of the research done by Williams and Watts is never touched by human hands.

They have developed an automated system that can take either an item identified by National Stock Number (NSN) or Manufacturer's Part Number and validated the requirement, identify sources of supply, and automatically generate purchase orders, requests for quotations to vendors/manufacturer's and so on. Only a small percentage of the items they contracted to provide could not be processed by the sophisticated computer

system they had developed. Those items which cannot be processed entirely up to the point of receipt by the computer are processed manually by the buyers. Any vendor research or other type of purchasing research is done on a case by case basis.

Up until recently the company had no reason to invest in purchasing research capabilities beyond those described. They have recently contracted with the Naval Supply Systems Command (NAVSUP) to procure a variety of part numbered items valued at under $25,000 for SPCC. Some of these items are what could be classified as 'hard to get' and require extensive research and in some cases the answer is to find a 'job shop' to manufacture the item. At this point Williams and Watts is getting into an area which may require research skills and engineering expertise that they have not had to consider in the past.

2. FMS Corporation

FMS Corporation is located in Los Angeles, California. It is also a privately held company. The founder owns ninety percent and the other ten percent is owned by one of the other company officers. The company was started in 1981 and had sales of over $55 million in 1986. Much like Williams and Watts the service offered by FMS is buying, inspecting, packaging, and delivery.

FMS Corporation as one might guess from the name got its start in Foreign Military Sales (FMS). Originally they were under subcontract to procure parts for major Department of Defense (DoD) prime contractor's that were engaged in the sale of military items to foreign countries. Subsequent to this arrangement, FMS has in some cases been engaged as a buying agent for U.S. manufactured subcontract items for foreign companies. That is, foreign manufacturers who have been licensed to manufacture the DoD prime contractor's design in their own facilities.

By and large FMS's forte is automated hands off purchasing to the greatest extent possible. FMS also has a contract to procure items for SPCC but the majority of the items they have contracted for exceed $25,000. Their competitive edge, as it were, also rests on the software they have developed for automated purchasing. The FMS system is very sophisticated, very flexible, and features BOM (bill of materials) and MRP (material requirements planning) capabilities. These BOM and MRP features employ some highly sophisticated algorithms.[4]

FMS, unlike Williams and Watts, has a sizeable quality assurance group staffed by engineers. In fact, of the 150 people employed by the company, approximately fifteen are engineers. They are responsible for the accuracy and sufficiency of equipment used in acceptance testing and assisting buyers with specifications and sources of supply. They also spend a great deal of time out of the office visiting manufacturer's facilities.

These engineers and the quality assurance concepts at FMS are of interest from the standpoint of market (purchasing) research. Some of the efforts FMS undertakes are what the researcher would classify as purchasing research. Yet, like many other organizations, they do not have a group or individual that they distinguish as being tasked with conducting or coordinating purchasing research.

E. STATE GOVERNMENTS

As indicated in the introduction to this chapter, efforts were made to contact some State governments to see what if anything they were doing in the area of purchasing research. These contacts produced only one thing of interest as far as this thesis is concerned. The

4 Any further discussion of the software developed by FMS for their automated purchasing system could easily border on proprietary information. At any rate, further details would add little to this narrative.

State of New Jersey Purchase Bureau had an economist on staff at one time but the position has been vacant for a some time. The economist had been responsible for doing commodity studies and assisting buyers on an as needed basis.

F. NAVY ACTIVITIES

To the best of the researcher's knowledge there are no Navy activities that consciously engage in market research as defined in this thesis. It was not the intent of the researcher to contact every Navy activity that has significant procurement responsibilities. However, people talked with during the course of this research that would be in a position to know of such activities were aware of none at the time.

Some efforts which have been termed as falling within the 'narrow view' of market research have been mentioned already. In this section some other efforts that do or may have a role to play in developing market research in the Navy are discussed. What follows is not intended to describe the mission or possible contribution of any activity in the development of market research. This is merely to suggest some activities or segments thereof which in addition to the Navy Competition Advocate General that may have a role to play.

1. Office of the Navy Competition Advocate General

The Competition Advocate General of the Navy listed market research as one of has priority objectives for fiscal year 1987. His office has assumed responsibility for coordinating the efforts of various Navy procurement activities in establishing market research programs. [Ref. 37: p. IV-5]

There can be little doubt that coordination of efforts in this early stage of development of market research in the Navy is needed for several reasons. One is that the reality of limited resources dictate that the Navy not 'invent' something any more times

than necessary. Another reason for coordination stems from the confusion over what the requirement really is. A third reason is that, along with the defining the requirement, a definition of boundaries is needed. That is, establishing what areas and to what depth research will be conducted by a given procurement activity. Certainly a sharing of information could be made easier by having a coordinating activity.

2. NAVSUP (PML-550)

Within the Naval Supply Systems Command (NAVSUP) is the Spares Competition and Logistics Technology Program Office (PML-550). This program office could be a key player in the development of market research in the Navy. Currently PML-550 does not identify any of the initiatives it is pursuing as being related to market research. Two of the areas of responsibility shown in the PML-550 organization chart in Figure 12 are of interest in terms of developing market research.

The techniques used in pursuing the Breakout Program and the should cost analyses performed by the Price Fighter Detachment in Norfolk, Virginia, are of particular interest. Should cost and breakout are two different concepts but the products of both efforts are of use to buyers. Price Fighters and two activities concerned with breakout will be discussed in the following three sections.

3. Price Fighter

Price Fighter (PML-5504) is a detachment located in Norfolk, Virginia. Its charter is to conduct should cost analyses[5]. The detachment is headed by a Navy Supply Corps Commander and staffed by three engineers, twenty seven Industrial Engineering Technicians/Equipment Specialists and eleven support personnel.

[5]Should cost is not a technique. It is a concept that says that a reasonable price may be determined by computing what it should cost to manufacture an item given reasonable economy and efficiency of operation. [Ref. 38]

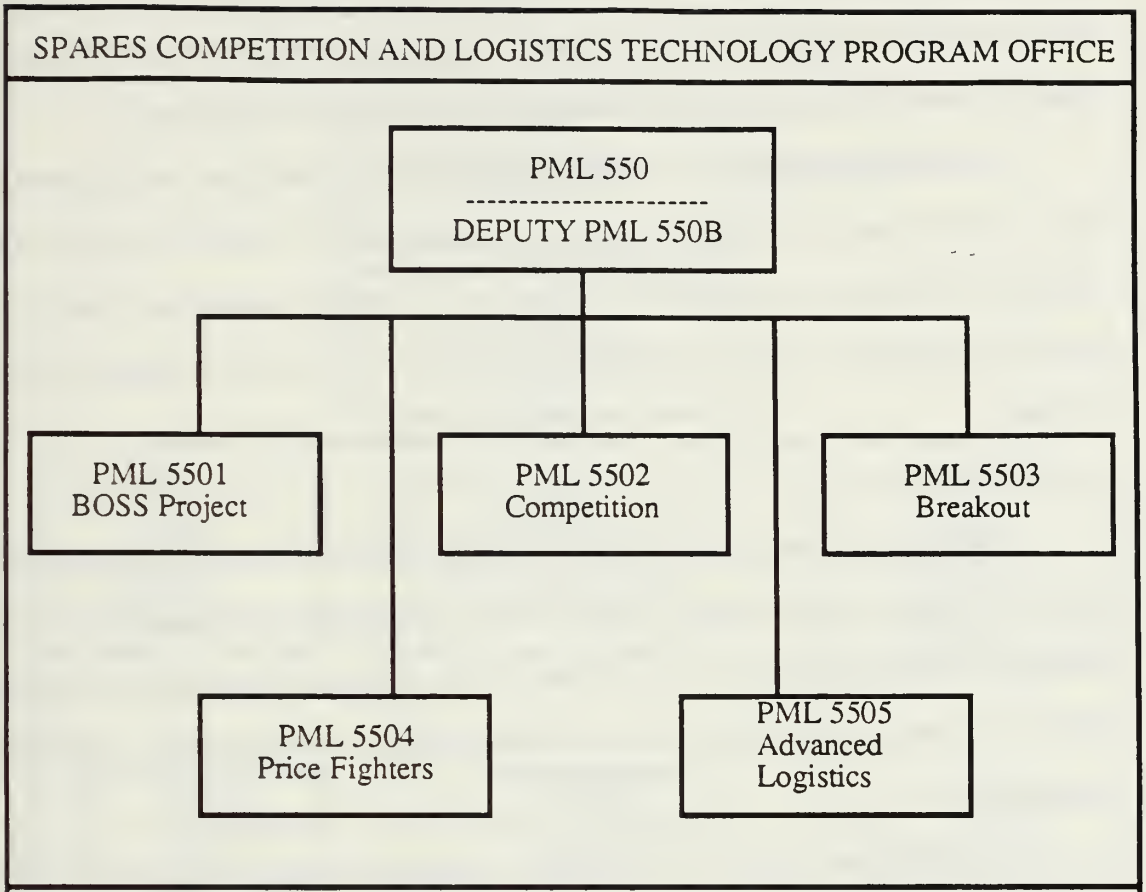

Figure 12. PML-550 Organization Chart
Source: Price Fighter Presentation 31 July 1987

A should cost analysis provides information which can be of great value to the buyer. Unfortunately, at least half of Price Fighter's investigations are instigated based on detection or suspicion of problems with procurements that have already been executed. This is in keeping with original mandate of the Price Fighter Detachment.

An effort is being made to expand Price Fighter's service to allow buyers to request a should cost analysis on an item being procured[Ref. 39: p. i] . On the surface this would appear to be a good idea. However, looking at this idea from the standpoint of

the principal elements of effective market research points to potential problems. Problems which are likely to result in the areas of project selection, timeliness of information, and effective communications could easily dilute the effectiveness of this initiative.

Granted, Price Fighter was initiated with something other than market research in mind. Should cost is a concept that can be employed in a market research effort. Therefor, the efforts to expand Price Fighter into a proactive rather than reactive role should be evaluated vis à vis the principal elements of an effective market research program.

4. SPCC

Ships Parts Control Center (SPCC) has a recently established division which could have a role to play in market research. This is the Quality Assurance Division of the Technical Breakout Department. The Director of the Technical Breakout Division is also SPCC's Competition Advocate. An organization chart for this department is depicted in Figure 13.

As shown in Figure 13, the Quality Assurance Division has what it calls a Procurement Support Branch. This branch was not organized with the concept of market research in mind. The proposed functions of this branch [Ref. 42] suggests efforts that would fall within the scope of market research as defined in this thesis. These proposed functions are participation in pre-award surveys of vendors and development of what is being called the SPCC Procurement Quality Referral System[6].

[6]This system would attempt to identify apparent/potential problems vendors. This identification would be followed by in depth research into the actual/potential problems.

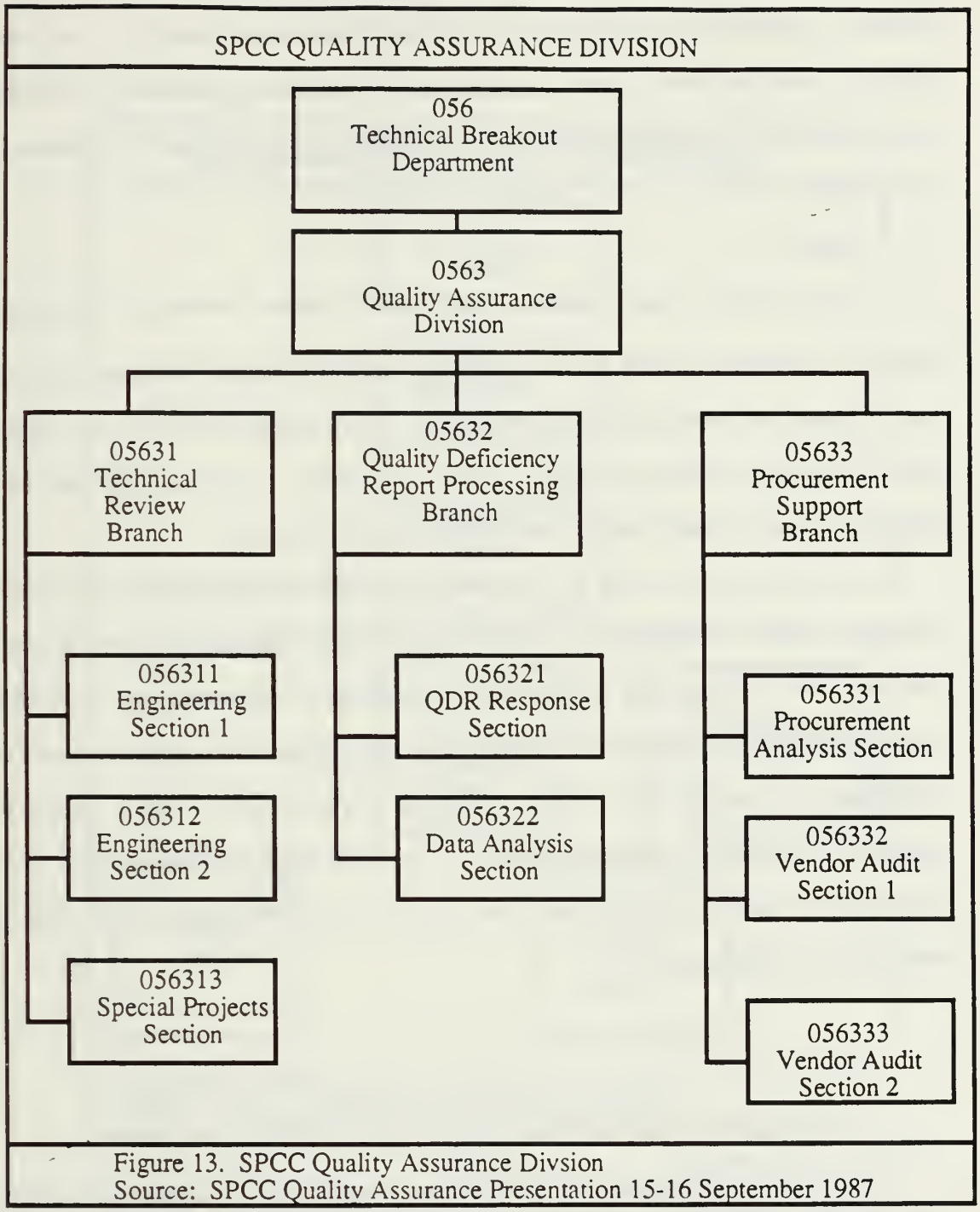

Figure 13. SPCC Quality Assurance Divsion
Source: SPCC Quality Assurance Presentation 15-16 September 1987

It would seem that efforts of the Procurement Support Branch are related to market research. Particularly if its efforts are to be tied to advance planning for procurement actions. It can't be looked upon as a complete market research organization but an look at it in the context of the principal elements of an effective market research program might prove useful.

5. ASO

The Aviation Supply Office (ASO) has a division involved in the breakout process[7]. This division, like Price Fighters and the SPCC Quality Assurance Division, was not organized with market research in mind. The Competition Division at ASO has responsibility for screening candidate items for breakout. As shown in Figure 14 the department head for this division is the ASO Competition Advocate.

As can be seen in Figure 14, the Competition Division is organized more or less along commodity lines. In this respect it is similar to the buying organization at the GE MABG. However, this division does not have any procurement responsibilities or reporting responsibilities to the Director of Contracts. The Competition Division does interact with purchasing in a support role. The Competition Division is involved in should cost analysis, value analysis, and vendor audits. Oftentimes when the Competition Division completes its work it is able to give purchasing a completed package fully ready for competitive procurement.

[7]Breakout is an attempt to avoid middlemen who add little or no value to a product. The concept of breakout, "involves the detailed technical data screening process that identifies items which can be procured from other than the historic sole source vendor [Ref. 38: p. 7]."

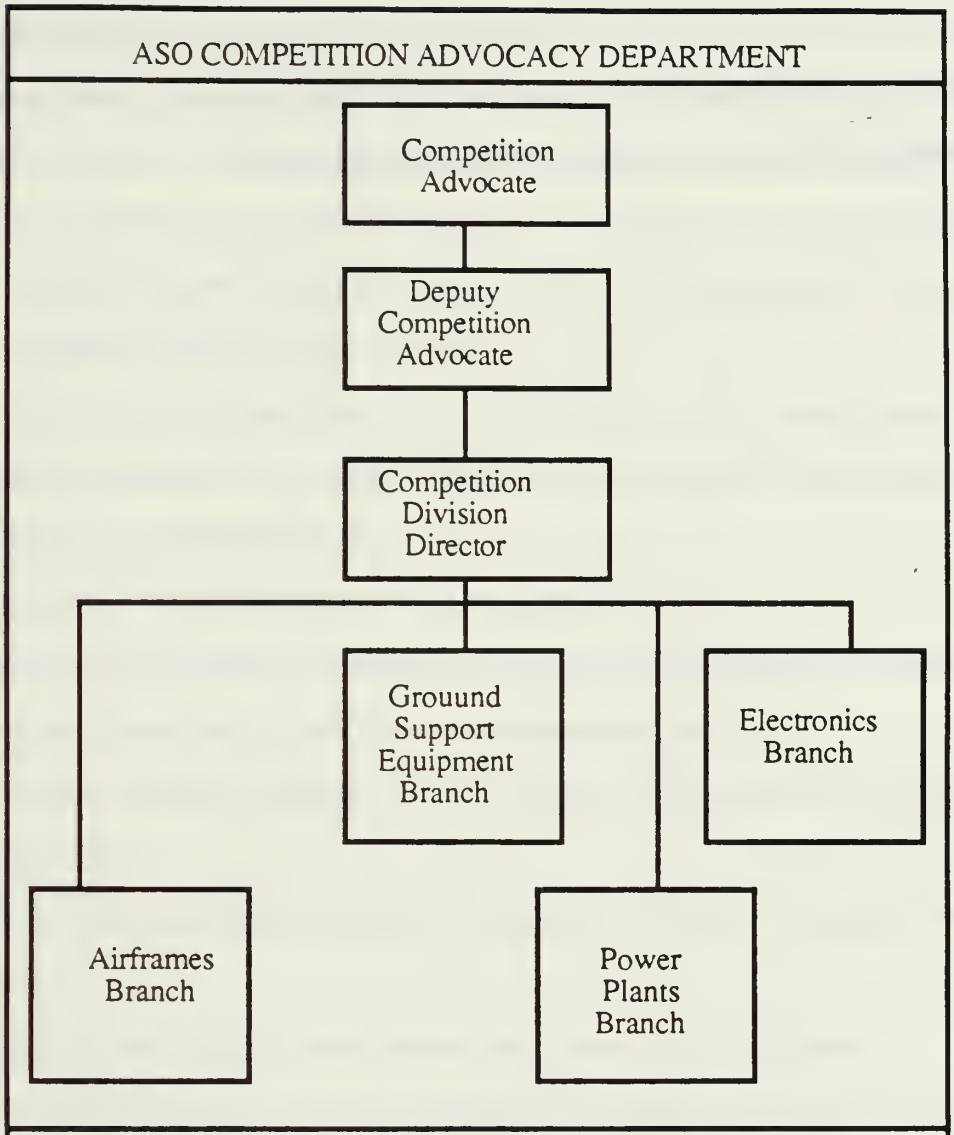

Figure 14. ASO Competition Advocacy Department
Source: Developed from ASO Source Approval Information Booklet

G. SUMMARY

This chapter has presented some information about activities performing market research activities. The first two were consciously pursuing such efforts. The other organizations mentioned that were performing functions related to market research were not doing so with market research in mind. In the next chapter an organization for market research at a Navy Inventory Control Point will be suggested.

VII. A RECOMMENDED ORGANIZATION

A. INTRODUCTION

In this chapter a recommended approach to market research for a Navy Inventory Control Point (ICP) is offered. Even though the approach will focus primarily on the ICP, how this organization at the ICP might be of assistance to a Naval Supply Center (NSC) or a Navy Regional Contracting Center (NRCC) will be suggested. The research needs of the NSC or NRCC will be addressed.

The concepts developed thus far will be applied to the development of the recommended organization. In order to do this some assumptions must be stated about this approach. These assumptions are:

- The 'broad' view of market research is the correct one.
- The principal elements of an effective market research program as put forth in this thesis are appropriate for evaluating an organizational approach.
- The organizational approaches as described in this thesis adequately cover the most likely choices.
- The evaluations of these approaches, although subjective in nature, are essentially correct.
- It is desirable to apply the management model developed in this thesis.
- The reasons for selecting a topic to research and the range of topics to be researched are more narrow in the Federal government than in industry.

The above assumptions should be reasonably clear with the exception of the last one. The last assumption is addressed in the next section.

B. RANGE OF RESEARCH TOPICS FOR A NAVY ICP

In Chapter IV, Figure 1, the criteria for selecting research topics were listed. In the selection of market research topics for a Navy ICP some of these would not be appropriate considerations. Criteria such as (1) value of the product or service, (2) selected price/cost characteristics, (3) availability, and (4) quality would be appropriate.

Just as with selection criteria, certain subject areas would not be appropriate for research by a Navy ICP. Examples of inappropriate research subjects would be lease or buy, purchase of source of supply, and countertrade with vendors. The general area of research may be the same at a Navy ICP and an industrial firm. However, the specific information sought or the type of decision the information would support may be different. For example, an industrial firm may look at a suppliers new products from the standpoint of integrating them into some new or improved version of a product they desire to manufacture. The Navy ICP would look at new products in terms of whether or not they are preferable substitutes for an existing requirement.

C. THE MARKET RESEARCH ORGANIZATION FOR A NAVY ICP

The recommended organizational approach for market research at a Navy ICP is a combination of staff and purchasing personnel. This is deemed to be the most effective based on the subjective analysis of the four organizational approaches discussed in Chapter IV. The matrix approach might have been preferable if not for the fact that there isn't much in the way of functional expertise to draw on for market research.

What expertise that exists at the ICP's that would be useful in market research is currently in the breakout functions. Therefor organizing the market research function under the Command Competition Advocate would seem to be the most logical approach. It would involve the least organizational disruption and place it under the two higher

authority activities (Competition Advocate General and PML-550) that have responsibility for oversight of execution of the CICA. An organization chart for a Commercial Marketplace Information Division is shown in Figure 15.

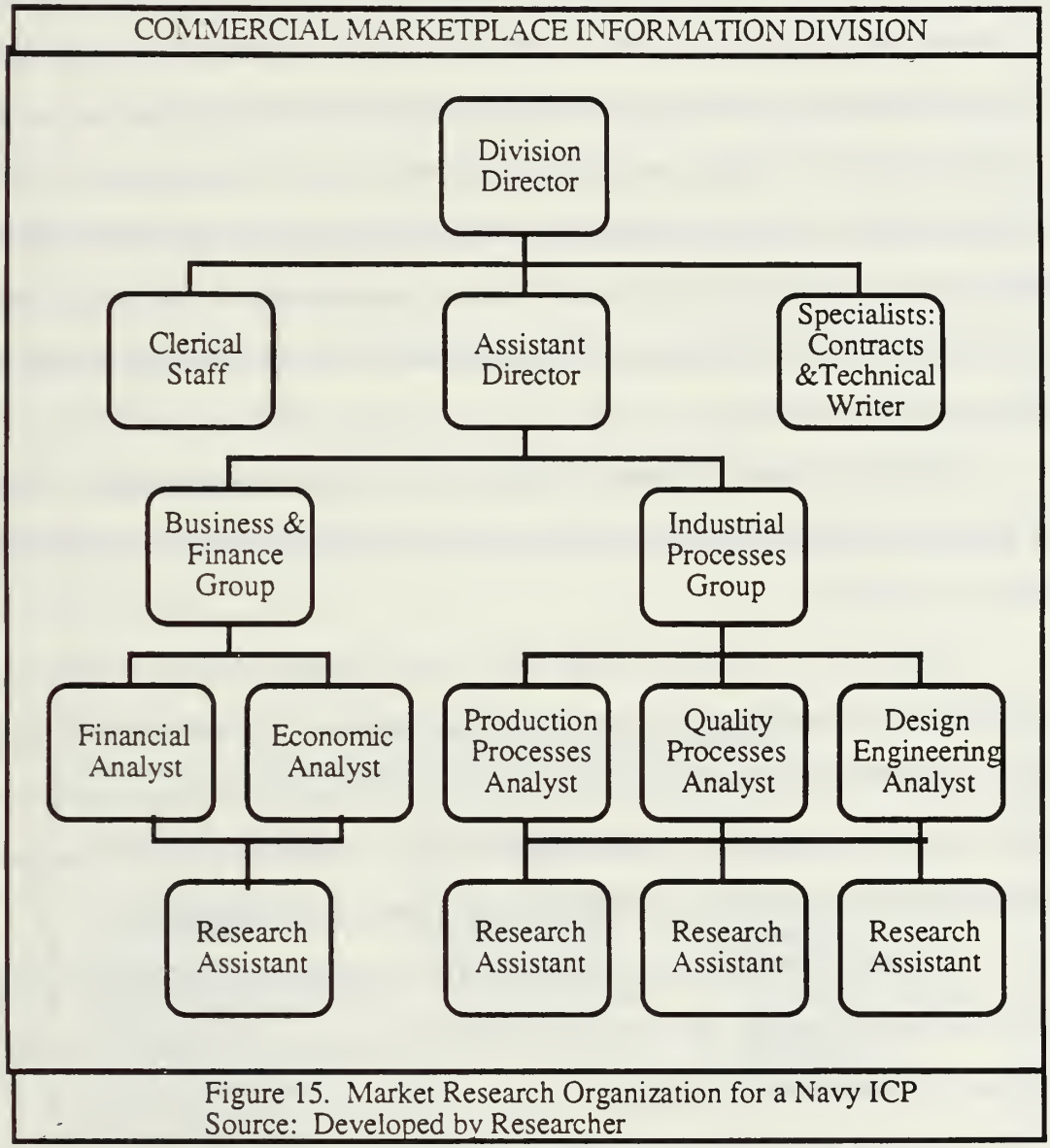

Figure 15. Market Research Organization for a Navy ICP
Source: Developed by Researcher

1. Staffing Rationale

Staffing areas are discussed below except for clerical support which should require no explanation.

Division Director - The primary responsibilities of the division director would be the application selection criteria to proposed research projects and coordination of efforts between the division and purchasing personnel. This would include ensuring that the information provided to purchasing was done so in a timely manner and that information was in a readily understandable format. If necessary the director should see to the provision of training to buyers to enable them to properly utilize research products. In cases where research is to be done by buyers the director should ensure that the necessary staff assistance is provided.

Assistant Division Director - The assistant would be responsible for assisting the director in applying selection criteria to potential research projects and coordination of research staff efforts.

Specialists - The contracts specialist would be responsible for working with research staff to ensure they are aware of the implication of recommendations made to buyers in view of current contracting requirements. The contracts specialist would advise the director and the assistant on the application of project selection criteria with regards to contracting policy and assist staff researcher in preparing research proposals.

The technical writer would be responsible for reviewing all research finding before they are released to buyers. The primary purpose of this is to ensure research finding are effectively communicated to the buyers.

Business and Finance Group - There is a wealth of useful information available such as company financial reports, U.S. Department of Commerce reports, electronic data bases, and Defense Contract Audit Agency reports. Unfortunately many

buyers and contract specialist either don't have enough training to use them effectively or don't have time to study them. This group would be responsible for reviewing available information sources for applicable information to be included in such things as commodity studies and vendor or industry analyses. Areas of research interest to this group are shown in Figure 13.

Industrial Processes Group - This has been a weak area for Navy buying activities in the past. Buyers and contract specialist are generally weakest in the technical areas. Those activities that have had technical personnel available to assist buyers have generally not had much in the way of expertise in actual manufacturing process engineering or quality control processes. The majority of the expertise has been concentrated in the area of engineering design. The recently created Quality Assurance Division at SPCC, the Price Fighter Detachment, and the Competition Division at ASO are relatively recent improvements in this area. Market research areas of interest for this group are also shown in Figure 16.

NAVY ICP MARKET RESEARCH TOPICS		
Business & Finance	Common Areas	Industrial Processes
Financial Capacity	Cost of Quality	Methods of Production
Transportation	Make or Buy	Packaging
Labor Issues	Should Cost	Specifications
Supply/Demand Forecast	Vendor Surveys	Production Facilities
Price Forecast	New Sources	Standardization
Government Regulations		Substitution
Vendor Sales Strategy		
Industry Outlook		

Figure 16. Areas for ICP Market Research
Source: Developed by Researcher

D. MARKET RESEARCH AT THE NSC OR NRCC

The Navy ICP is concerned primarily with repair part support for Navy weapons system. The NSC's and NRCC's buy some of these types of items but they also buy standard and non-standard items of the type managed by the Defense Logistics Agency and the General Services Administration. In some cases the market research conducted by the Navy ICP may not meet the needs of the NSC or NRCC.

Another area where the Navy ICP will probably not conduct research that is needed by the NSC or NRCC is in the area of services. The NSC's and NRCC's do a great deal of contracting in this area. Some of the technical information provided by the ICP's may be helpful in this area but the NSC's and NRCC's would have do the majority of the research on their own.

A market research function tailored to the specific needs of NSC's and NRCC's is necessary. It should be concerned with those unique areas in which research is justified. To the greatest extent possible NSC and NRCC research efforts should be coordinated so as to avoid duplication. If at all possible the research done at the ICP should not be duplicated.

E. SUMMARY

A recommendation for an approach to organizing a market research function at a Navy ICP has been offered in this chapter. It is recognized that further research is required to evaluate the organizational approaches offered in this thesis as well as the management model. Nonetheless it is the researcher's opinion that this is a reasonable recommendation based on the belief that in the end the assumptions stated at the beginning of this chapter will be found to be true.

VIII. CONCLUSION

A. THE RESEARCH QUESTIONS

The findings of this research are summarized below as they pertain to the specific research questions posed in Chapter I. The primary research question was: What are the key elements of a procurement market research program and how should the Department of Defense (DoD) employ such a program in the DoD procurement process? The primary research question will be addressed after the secondary questions.

1. What are the principal elements of a market research program?

The principal elements of an effective market research program addressed in Chapter IV are:

- Criteria for Project Selection
- Proper Research and Analysis Skills
- A Methodical Approach
- Timely Information
- Effective Communication of Findings

These represent a synthesis of information gleaned from readings in the field of marketing research, readings and observations in the field of purchasing research, and the researcher's interpretation of the market research requirement as it applies to the Federal procurement process. It is felt that this represents a reasoned approach to the problem of developing an effective market research program. These principals are reflected in the model developed in Chapter V and the recommended organization put forth in Chapter VII.

2. How should market research be performed?

Two major findings of this research address this question. One addresses it from the standpoint of how to organize for market research and the other from the standpoint of how to manage a market research function.

The following four organizational approaches for accomplishing market research are identified in Chapter 4:

- Assignment of a Full Time Staff
- A Responsibility of Purchasing Personnel
- A Combination of Buyers and Staff
- A Matrix Organization

Each of these approaches was evaluated subjectively with respect to the principal elements. Based on this evaluation the combination approach is felt to be the most effective.

The market research management model developed in Chapter V suggests that market research can be divided into four phases. The are:

- Requirement Definition
- Planning
- Collection
- Analysis and Interpretation

The best results from a market research program will be obtained from a systematic approach. Additionally, it is suggested that as each research project is being worked there are key points at which management must make decisions critical to the success of the effort.

3. What are the critical problems likely to be encountered in market research?

Problems of resource constraints can have a detrimental affect on any initiative to improve the procurement process. Aside from these, there are several specific problems likely to plague a market research program. These are listed below:

- Inappropriate Research
- Poorly Communicated Research Findings
- Insufficient Lead Time
- Poor Utilization of Research Findings

The first two are problems are most likely to stem from staffing, organizational, or management deficiencies in a particular market research operation. Considerations which management must take into account to improve the selection of research projects are emphasized in the model in Chapter V. Staffing for the type of market research organization recommended in Chapter VII focuses on the issue of effectively communicating research findings. Specifically a contracts specialist and a technical writer are recommended to address this problem.

The third and fourth problems can be viewed as systemic problems with the Federal procurement process. Nothing about market research can change the reality of the constant pressure to reduce procurement lead times. However, if research projects can be selected which have applicability to more than the instant procurement and are kept up to date by a research staff, market research can contribute to shortened lead times rather than be hampered by them. The market research organization recommended in Chapter VII addresses the need to train buyers to utilize research products. This by no means is intended to imply that one of the primary functions of a market research organization should be to attempt to overcome training and experience shortcomings of the procurement workforce in general.

4. How could the information available from a market research program be utilized?

The uses of market research information are discussed at various points throughout the thesis. The following list summarizes some of the major uses of market research information:

- Improve Solicitations
- Reduce Over-specification
- Negotiation Preparations
- Evaluation and Selection of Sources

5. What are the expected benefits of a systematic approach to market research?

This can be thought of in terms of the methodical approach listed as one of the principal element of an effective market research program. Market research conducted on a systematic basis using a methodical approach is likely to be of a higher quality and therefor will be more likely to serve the purposes listed in the preceding section. A systematic, methodical approach is more likely to see more research projects through to completion and to take advantage of more sources of information. More on the benefits of a systematic approach can be found in the evaluation of the organizational approaches in Chapter IV.

6. What are the key elements of a procurement market research program and how should the Department of Defense (DoD) employ such a program in the DoD procurement process?

The key elements are those five principal elements discussed in Chapter V. A market research program should be employed within the DoD procurement process as a the primary method of providing timely and complete information to buyers and contracting officers to aid them in making sound business decisions. An effective market research program could be invaluable to major program offices as well as to other buying activities within the DoD. The systematic approach, utilizing some sort of professional staff in

conjunction with buyers or program office personnel is expected to produce the best results. Market research should be geared toward improving the quality of the competition for DoD contracts as well as the quality of the goods and services procured under those contracts.

B. RESISTANCE TO CHANGE

Confusion over the nature of the requirement and a lack of the skills necessary to conduct or utilize market research are considered to be serious problems. By far the largest problem which must be dealt with in establishing an effective market research program may have nothing to do with defining the requirement or a lack of trained personnel. **The problem of resistance to change** may present a far greater obstacle to be overcome than all other problems combined.

Market research represents change. In the researcher's opinion the magnitude of the change required has been underestimated. This is because the 'narrow view' generally assumes that market research can be accomplished by introducing new skills and information resources to the procurement workforce. The 'broad view' calls for organizational change and the introduction of disciplines and techniques 'new' to the procurement process.

A textbook on the subject of management lists the following sources of resistance to change [Ref. 41: p. 358].

- Uncertainty about the causes and effects of change.
- Unwillingness to give up existing benefits.
- Awareness of the weaknesses in the changes proposed.

This same text suggests a model that has been developed to deal with the obstacles to change. The authors suggest that this model is applicable to individuals, groups, as well as organizations. This model is summarized in the following excerpt from that text and depicted in Figure 17.

> 1.***Unfreezing*** involves making the need for change so obvious that the individual, group, or organization can readily see and accept it.
> 2.***Changing*** requires a trained change agent to foster new values, attitudes, and behavior through processes of ***identification*** and ***internalization***. Organization members identify with the change agent's values, attitudes, and behavior, internalizing them once they perceive their effectiveness in performance.
> 3.***Refreezing*** means locking the new behavior pattern into place by means of supporting or reinforcing mechanisms, so that it becomes the new norm. [Ref. 41: p 357]

It is hoped that this research can contribute in some small way to the ***unfreezing*** and ***changing*** processes necessary to achieve the change needed to establish effective market research programs in the Federal procurement process.

C. AREAS FOR FUTURE RESEARCH

There have been numerous areas alluded to throughout this thesis that require additional research. Some of them are summarized below:

- The organizational approaches suggested in this thesis require more rigorous and objective evaluation.
- The effectiveness of the market research model developed in this thesis should be tested.
- The recommended organizational approach for Navy ICP's requires detailed evaluation.

- The tools and skills required for market research need to be explored in greater detail to determine which ones would be most beneficial to Navy procurement activities.
- Additional research into the sources of market research information is needed.

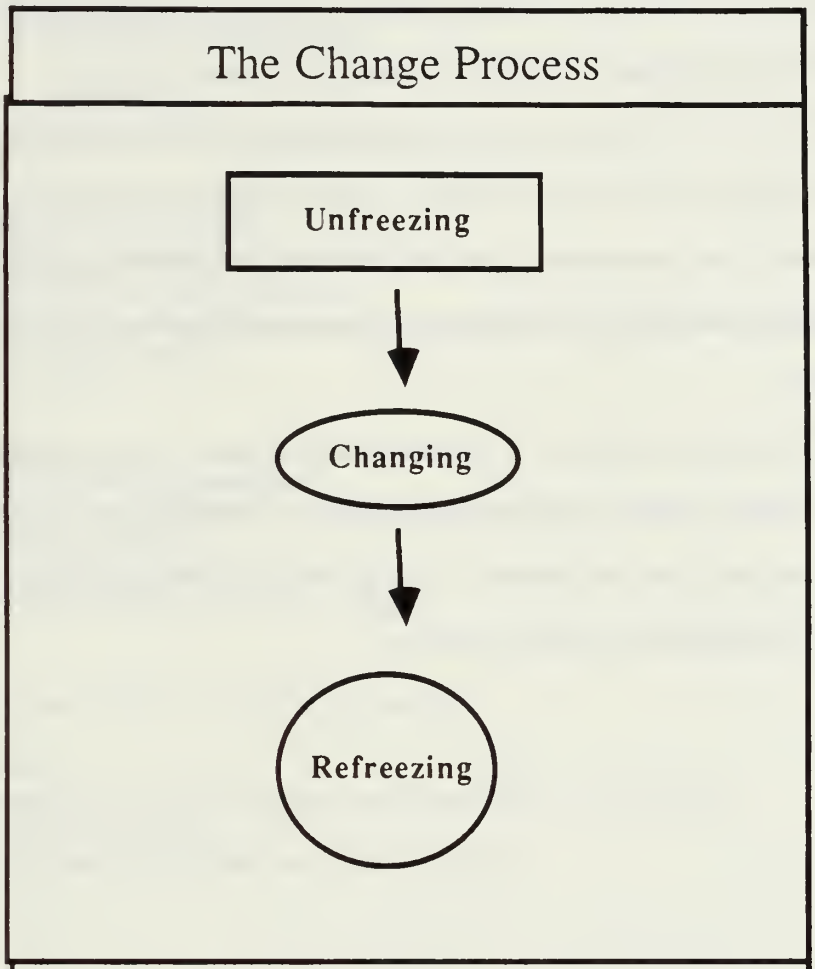

Figure 17. The Change Process
Source: Reference 41: p. 357

D. SOME FINAL THOUGHTS

In the researcher's opinion the Navy is far from being in compliance with the CICA as far as market research is concerned. While much of what has been recommended in this thesis requires further research, the establishment of market research functions to support Navy procurement activities cannot wait until every possible angle has been researched. There is much to be learned just from attempting to do market research.

Through the U.S. General Accounting Office (GAO), the Congress has the capability to order a compliance audit to see where executive agencies stand with respect to the implementation of various aspects of the CICA. When the GAO is asked what the Navy is doing about market research it is hoped that the answer will not be "Very little, and most of that is wrong."

As stated earlier one of the more formidable impediments which the implementation of an effective market research program must overcome is resistance to change. Unfortunately there are more people who are fearful of change and therefor resist it than there are those who relish the challenge that change presents.

APPENDIX A

PURCHASE RESEARCH SELECTION CRITERIA

Value of product or service
Top dollar (current or projected).

Product profitability
Red dollar (unprofitable product).

Price/cost characteristics
Infrequent price changes.
Frequent or seasonal price fluctuations.
End-product not cost competitive.
Raw materials costs rising at a greater rate than selling price of product, resulting in reduced profit margin.
High unit cost.

Availability
Limited number of suppliers.
New suppliers adding to available supply.
Availability limited.
Possibility of imports.
Possibility of in-house manufacture.

Quality
Have had quality or specification problem.

Data flows
Information for decisions often inaccurate, late, or unavailable.
Cost of data excessive.
Buyer doesn't have time to do analysis work.

Source: Reference 31: page 17

APPENDIX B

RESEARCH ON PURCHASED MATERIALS, PRODUCTS, OR SERVICES

Economic order quantity.
Determination of the purchase quantity that minimizes total annual cost of conducting the purchase transaction and holding inventory.

Lease or buy.
Collection of data on the advantages and disacdvantages of each alternative so that the most attractive decision can be identified.

Make or buy.
Comparison of economic and managerial outcomes from each alternative in order that an informed choice can be made.

Method of production or manufacture.
Investigation of the technology required, as a basis for of suggesting changes.

New product.
Search to uncover new items that profitably might be purchased to meet an anticipated need or in lieu of an existing requirement.

Packaging.
Investigation of processes and materials to determine tha lowest-cost method of meeting requirements.

Scrap disposal.
Analysis of disposal methods, channels, and techniques to isolate those that will provide greatest net return to the firm.

Scrap recovery.
Analysis of the factors causing the generation of scrap and of methods for handling scrap so that maximum potential return will be realized. One firm concluded that rather than sending precious metal scrap to a refiner for recovery, it would be more economical to build its own facility and recover its own metals.

Specification.
Analysis of current specifications to be sure they outline the required level of performance, do not result in purvchases of unneeded attributes or unnecessarily high levels of performance, and enable competitive purchasing.

Standardization.
Review of uses to which specific products are put and consideration of the possibility of using one item to fill the needs for which multiple items currently are purchased.

Substitution.

Analysis of the technical and economic ramifications of using a different item in lieu of the one presently purchased.

Transportation.

Investigation of the movement requirements and alternative methods and costs. One firm found that by operating its own over-the-road vehicles, it not only would save in total transport cost but also wouls reduce congestion in and around its receiving area.

Source: Reference 31: pages 18 & 19

APPENDIX C

COMMODITY STUDY GUIDELINES

I. Current Status

1. Description of commodity.
2. How and where commodity is used.
3. Requirements.
4. Suppliers.
5. How commodity is purchased.
6. How commodity is transported.
7. Current contracts and expiration dates.
8. Current price, terms, and annual expenditure.
9. Scheduling.
10. Receiving.
11. Inspection.
12. Expediting.
13. Packaging.
14. Storage capacity.

II. Production Process

1. How is the item made?
2. What materials are used in its manufacture?
   (a) Supply/price status of these materials.
3. What labor is required?
   (a) Current and future labor situation.
4. Are there alternative production processes?
5. What changes are likely in the future?
6. Possibility of making the item?
   (a) Costs.
   (b) Time factors.
   (c) Problems.

III. Uses of the Item

1. Primary use(s).
2. Secondary use(s).
3. Possible substitutes?
   (a) Economics of substitution.

IV. Demand

1. Our requirements:
   (a) Current.
   (b) Projected.
   (c) Inventory status.
   (d) Sources of forecast information.
   (e) Lead times.
2. Competing demand, current and projected.
   (a) By industry.
   (b) By end-product use.
   (c) By individual firms.

V. Supply

1. Current producers.
   (a) Location.
   (b) Reliability of source.
   (c) Quality levels
   (d) Labor situation.
   (e) Ownership.
   (f) Capacity.
   (g) Distribution channels used.
   (h) Sales strategy.
   (i) Expansion plans
   (j) Warranties and guarantees.
   (k) Strenghts and weaknesses of each supplier.
2. Total (aggregate) supplier situation:
   (a) Current.
   (b) Projected.
3. Import potential and problems.
4. Pertinent government regulations and controls.
5. Potential new suppliers.
6. Technological change forecast.
7. Political trends.
8. Ecological problems.
9. Weather.
10. Capital investment per unit of output.

VI. Price

1. Economic structure of producing industry.
2. Price history and explanations of significant changes.
3. Factors determining price.
4. Cost to produce and deliver.
5. Incremental costs.
6. Co-products or byproducts.
7. Effect of materials and labor cost changes on prices.
8. Transportation cost element.
9. Tariff and import regulations.
10. Effect of changes in the business cycle.
11. Effect of quantity on price.
12. Seasonal trends.
13. Estimated profit margins of various vendors.
14. Price objective(s) of vendors.
15. Potential rock bottom price.
16. Do prices vary among variuos industries using the item?
17. Forecast of future price trend.
18. Specific pricing system used by various vendors.
19. Influence of actions of specific vendors on prices of others; is there a price leader?
20. Relation of prices to other products.
21. Foreign exchange problems.

VII.Strategy to Reduce Cost

1. Make item.
2. Short term contract.
3. Long term contract.
4. Acquire a producer.
5. Find a substitute.
6. Develop a new producer,
7. Import.
8. Exploit all methods to exploit purchasing power.
9. Detailed preplanning of negotiations.
10. Use of agents.
11. Hedging.
12. Toll contract.
13. Value engineering analysis.
14. Handling of scrap.

APPENDIX C

VIII. Appendix

1. General information:
   (a) Specifications.
   (b) Quality control requirements and methods.
   (c) Freight rates and transportation costs.
   (d) Storage capacity.
   (e) Handling facilities.
   (f) Weather problems.
   (g) Raw material reserves.
2. Statistics:
   (a) Price trends.
   (b) Production trends.
   (c) Purchase trends.

Source: Reference 31: pages 21-23

APPENDIX D

RESEARCH ON VENDORS

Analysis of financial capacity. Investigation of the financial health of present or potential vendors so that risk of the vendor's running into financial trouble, and its effects on the buying firm, can be assessed.

Analysis of production facilities. Collection of data on the vendor's physical facilities, emphasizing capacities and limitations.

Finding new sources of supply. Search to uncover new vendors for a purchase need. This is also part of a commodity study.

Estimate of distribution costs. Analysis of the steps performed in the process of moving items from their source to the point at which a firm takes possession, and calculation of the costs that the vendor should incur if the firm is reasonably effecient.

Estimate of manufacturing costs. Analysis of what it should cost a vendor (direct material, direct labor, engineering, tooling, manufacturing overhead, and profit) to make an item assuming reasonable efficiency. These data provide the basis for establishing target price in negotiation planning. This is the most active research topic in this subject area.

Supplier attitude survey. Determination, through systematic survey techniques, of what vendors really think of the buying firm and its purchasing practices.

Vendor performance evaluation. Collection and analysis of data as the basis for determining how good a job is being done by a given vendor so that decisions on sources for rebuys can be made more intelligently and present vendors can be advised where improvement is needed.

Vendor sales strategy. Development of a better understanding of a vendor's objectives and the means it is using to acheive these goals so that the buyer can anticipate the vendor's actions and design a purchasing stategy to provide for continued supply of needed items at lowest cost.

Countertrade. Locating vendors in foreign countries, analyzing their capabilities, and negotiating counterbalancing purchase agreements with them.

Source: Reference 31; pages 24 - 26

APPENDIX E

LMI STUDY APPENDIX C

MARKET RESEARCH TECHNIQUES, APPLICATIONS AND IMPACTS

TECHNIQUE. Full market investigation. Determine current status of applicable technology, extent and success of commercial applications, and source availability. Evaluate whether commercially available items can be incorporated into a system design and the extent of adaptation necessary to meet Navy requirements.

APPLICATION. Procurements where rapid technological developments influence the way in which the requirement is stated. Any procurement where commercial items could be adopted for Navy use by modification or by reorienting the specification.

IMPACT. Marketplace indicators drive the requirements statement and the contracting approach (e.g., multiyear, options, type of contract). Substantial savings by adopting or adapting items availible in the commercial marketplace . Identification of impediments to effective competition.

TECHNIQUE Industry briefings. Conduct organized and widely publicized briefings on Navy requirements for the purposes of soliciting early and substantive comments about the Navy's planned approach to the requireement.

APPLICATION. Major procurements involving technological advances, new contracting approaches, or the opportunity to use commecial items. must seek out participants who might not generally be aware of or interested in participating in such briefings.

IMPACT. Acquire information that will affect the requirements statement, specification development, and contracting approach.

TECHNIQUE. Make informal contact with potential contractors to discuss requirements and to solicit recommendations about a planned acquisition.

APPLICATION. All procurements.

IMPACT. Better requirement definition, solicitation development, and quality of competition.

TECHNIQUE. On-site visits to potential sources. Target qualified potential sources that typically do not respond to solicitations.

APPLICATION. Where it is expected on the basis of past procurement history that responses may be insufficient.

IMPACT. Identification and encouragement of new and possibly better qualified sources to respond to "hard case" Navy requireements.

TECHNIQUE. Attend industry and scientific conferences.

APPLICATION. All Navy commands that need to keep abreast of new developments and industry trends, make contacts, and acquire information about new areas of technology.

IMPACT. Knowledge of current technology and commercial successes and failures as applied to Navy requirements.

TECHNIQUE. Acquire literature about commercial products, industry trends, product availability, reliability, and prices.
APPLICATION. All Navy requirements.
IMPACT. More sources to solicit. Affects how requirements are stated. Facilitates price analysis. Identifies new products.

TECHNIQUE. Analyze past procurement history by examining quality and extent of competition, prices, and performance.
APPLICATION. All procurements.
IMPACT. Revise requirements, specifications, and contracting approach on the basis of "lessons learned."

TECHNIQUE. Full evaluation and test of commercial items in a Navy operating environment.
APPLICATION. Wherever apparently artificial barriers exist that prevent the use of commercial items in Navy systems.
IMPACT. Develop reliable data about the performance of commercial items in a Navy operations environment. Determine necessary adaptations and develop cost estimates.

TECHNIQUE. Place advertisements in trade journals and other publications to solicit inquiries.
APPLICATION. Any procurement where the extent and quality of competition is insufficient and a CBD announcement is not reaching qualified potential sources.
IMPACT. More responses from new and perhaps better sources.

TECHNIQUE. Use the Commerce Busisness Daily (CBD) effectively by providing more complete data about a requirement and synopsizing six weeks or more in advance of a solicitation.
APPLICATION. All non-exempt procurements over $10,000.
IMPACT. More inquiries and responses. Sufficient time to receive expressions of interest about a requirement and alert potential sources of the timing for release of a solicitation.

TECHNIQUE. Determine why selected contractors do not respond to a solicitation.
APPLICATION. All procurements where responses are insufficient or apparently well-qualified sources do not respond.
IMPACT. Identify on an information basis what the impediments are to more effective competition. Document and publicize "lessons learned" from these contacts.

TECHNIQUE. Examine business and trade association directories.
APPLICATION. All procurements.
IMPACT. Identify additional sources to solicit, and acquire basic information about these sources.

TECHNIQUE. Analyze commercial data base.
APPLICATION. All procurements.
IMPACT. Having new sources from which to solicit pricing data enables Navy to do better cost estimates.

TECHNIQUE. Use Procurement Management Reporting System (PMRS) information.
APPLICATION. All procurements where an insufficient number of sources are responding.
IMPACT. The PMRS identifies current Government contractors, what was purchased, and whether the purchase was competitive. As such, it is a source of independent information about past procurements of the same or similar supplies or services.

TECHNIQUE. Examine Federal supply schedules.
APPLICATION. All requirements that might be satisfied by the use of commercially available products or services.
IMPACT. Products or services that meet agency requirements may be on a schedule at a favorable price and terms.

TECHNIQUE. Use the PASS and PROFILE data bases.
APPLICATION. PASS is a data base of small business firms wishing to do business with the Federal Government. PROFILE is a data base of minority business firms interested in Federal contracts. Product and service listings are available.
IMPACT. Ensures that qualified small and minority businesses are identified for inclusion in solicitation mailing lists.

Source: Reference 16: Appendix C

APPENDIX F

SOURCES OF MARKET RESEARCH INFORMATION

Trade newspapers and magazines
Vendor sales personnel
Vendor technical personnel
Vendor purchasing personnel
National Association of Purchasing Management publications
National Contract Management Association publications
Vendor publications
Vendor surveys
Visits to vendor facilities
Trade association publications
Corporate annual reports
Various State and Local Government publications
Public libraries
Conferences & trade shows
Various electronic data bases
Foreign government publications
Various Federal agency publications

EXAMPLE

The ***U.S. Industrial Outlook*** which is published annually by the U.S. Department of Commerce is an excellent starting point for an organization wishing to prepare a commodity study or some other piece of market research. This publication provides information on over 350 industries. The name and office phone number of the researcher who prepared the update for a particular industry is provided at the end of the section about that industry. In addition references are provided at the end of individual industry summaries or for the major grouping as a whole.

The section on ferrous castings might be of interest because of the decline in this industry of late and the potential impact on future sources of supply which depend on castings for their finished products. This section provides the reader a good overview of the problems facing this industry plus five additional references.

Source: Developed by the researcher from various books and publications reviewed.

APPENDIX G

GE MAJOR APPLIANCE BUSINESS GROUP

COMMODITY STUDY

The GE Major Appliance Business Group (MABG) commodity study focuses on five major activities. These are scoping, evaluation, action recommendations, action execution, long-term agreements. Each of these activities are described below.

Scoping. In this activity the buyer is gathering as much information as possible about the assigned commodities. In this process the buyer is seeking answers to a wide range of questions about the suppliers of the commodities, their environment, and how that affects the quality, price, and availability of the commodity. Examples of questions the buyer would seek to answer are as follows:

- Are there any potential problems that would affect the vendor's supply of raw material?
- What is the industry capacity and utilization?
- What type of technology are we dealing with?
- What is the general labor climate for this industry?
- Are vendors or their warehouses located within a radius that would support just-in-time deliveries?
- Who are their other customers; their competitors?
- What are the effects of government regulation?

These are just a few of the many questions to which the buyer must seek answers. One of the buyers interviewed surveyed users of the vendor's product at GE as well as conducting surveys of current and potential vendors.

Evaluation. This activity involves identification of alternatives to improve the supply situation. Some of the alternatives looked at might be:

- Should we employ a package approach as opposed to using piece parts?
- Are there any opportunities for standardization?
- Can we reduce the number of suppliers?
- Are there any opportunities for savings through quality improvements?
- Are there any design changes possible or desirable?

Action recommendations. In this activity the buyer presents his or her recommendations to the next level of management. Together they select the suppliers with which to do business and formulate strategies for negotiation, decide on quality actions, etc

Action execution. In this activity the buyer sets about to carry out the plan agreed upon with management and others within the organization. Some activities might be contacting engineering and visiting key suppliers.

Long-term relationships. This involves the process of developing the long-term relationships with key suppliers which serve both the long range goals of GE and the suppliers.

Source: Interviews with GE MABG buyers.

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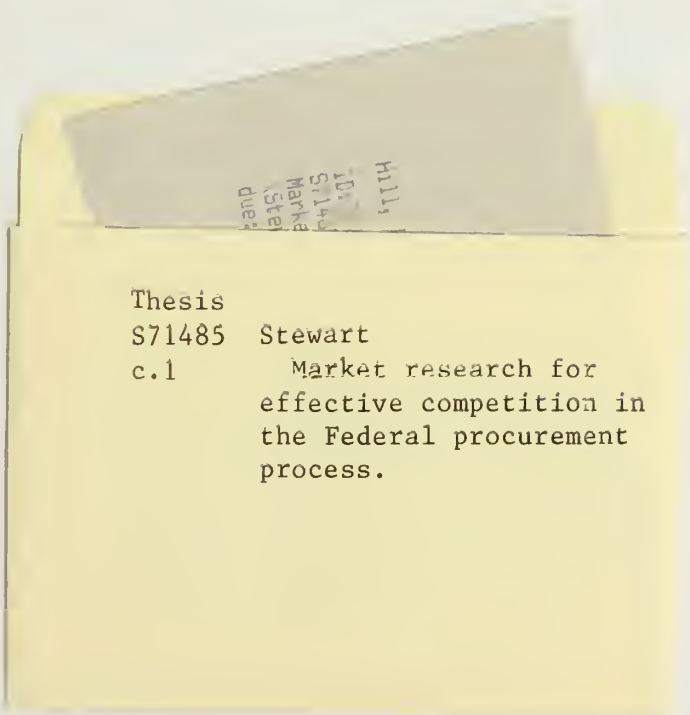

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